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TUESDAY, AUGUST 8, 1978
PART VI

CONSUMER PRODUCT SAFETY COMMISSION

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CELLULOSE INSULATION STANDARD

Withdrawal of Notice of Proceeding and Establishment of Interim Safety Standard

[6355-01]

CONSUMER PRODUCT SAFETY COMMISSION

CELLULOSE INSULATION

Withdrawal of Notice of Proceeding to Develop a Standard; Extension of Time To Propose an Amendment to the Interim Standard

AGENCY: Consumer Product Safety Commission.

ACTION: Notice of withdrawal of notice of proceeding to develop a standard; notice of extension of time for proposing an amendment to the interim standard.

SUMMARY: In this notice the Commission withdraws a March 13, 1978 notice of proceeding to develop a consumer product safety standard for cellulose insulation. The Commission takes this action because, as required by legislation enacted on July 11, 1978, the Commission has issued an interim safety standard for cellulose insulation, which is published elsewhere in this FEDERAL REGISTER; therefore, the Commission's proceeding to develop a standard is unnecessary.

In this notice, the commission also extends, for 150 days, from August 24, 1978 until January 22, 1979, the time in which it must publish a revised GSA specification as a proposed amendment to the interim standard for cellulose insulation. The July 11, 1978 legislation requires the Commission to propose the amendment by August 24, but allows the Commission to extend the time. The Commission is extending the time for proposing an amendment to the interim standard, in order to further study the technical and scientific basis and safety and economic consequences of the revised GSA specification.

DATES: The time for the Commission to publish a proposed amendment to the interim standard is extended from August 24, 1978 until January 22, 1979.

FOR FURTHER INFORMATION CONTACT:

Philip Bechtel, Office of the General Counsel, Consumer Product Safety Commission, Washington, D.C. 20207, 202-634-7770.

SUPPLEMENTARY INFORMATION:

WITHDRAWAL OF NOTICE OF PROCEEDING TO DEVELOP A STANDARD

The Commission began a proceeding to develop a consumer product safety standard for cellulose home insulation under section 7 of the Consumer Product Safety Act (CPSA) (15 U.S.C. 2056) by a notice in the FEDERAL REGISTER of March 13, 1978 (43 FR 10427) in which the Commission invited any interested person to submit either (1) an offer to develop a recommended consumer product safety standard or (2) an existing standard to serve as a recommended consumer product safety standard. The Commission began this proceeding after it preliminarily determined that fire hazards associated with cellulose home insulation constitute unreasonable risks of death or injury and that a consumer product safety standard is necessary to eliminate or reduce those unreasonable risks. In response to the notice of proceeding, the Commission received nine submissions from interested persons by the due date of April 12, 1978, and two submissions after that date. In a notice published in the FEDERAL REGISTER of May 9, 1978 (43 FR 19905) the Commission extended from May 12, 1978 until August 31, 1978 the period for it to evaluate the offers and decide whether to accept an offer to develop a recommended standard. The Commission extended the time because legislation was pending in Congress to require the Commission to publish within a short period of time an interim consumer product safety standard.

On July 11, 1978 this legislation became law (Pub. L. 95-319) requiring the Commission to publish an interim standard by August 24, 1978. The legislation provides that the interim standard is to consist of the requirements for flame resistance and corrosiveness from the General Services Administration (GSA) specification for cellulose insulation (HH-I-515C) and any technical nonsubstantive changes the Commission wishes to make in these provisions. In a notice published elsewhere in this issue of the FEDERAL REGISTER the Commission has published the interim standard (16 CFR part 1209). Because the interim standard contains requirements to help eliminate or reduce an unreasonable risk of injury to consumers from flammable or corrosive cellulose insulation, the Commission does not believe that it is necessary to continue its own proceeding under section 7 of the CPSA. In addition, Pub. L. 95-319 requires the Commission to propose within a short time period, as amendments to the interim standard, each revision to the requirements for flame resistance and corrosiveness GSA issues. GSA has recently issued a revision, HH-I-515D, containing requirements for flame resistance and corrosiveness that supersede the requirements of HH-I-515C. If this revision is incorporated into the interim rule, the revision may provide additional protection to the public without the need for the Commission to develop its own standard under section 7 of the act. Therefore, in accordance with section 7 of the CPSA the Commission withdraws the notice of proceeding to develop a standard to address the risk of injury from fires associated with cellulose (43 FR 10427, March 13, 1978).

EXTENSION OF TIME TO PROPOSE AN AMENDMENT TO THE INTERIM STANDARD

Pub. L. 95-319 requires the Commission to publish as a proposed amendment to the Commission's interim standard for cellulose insulation each revision issued by GSA that supersedes the requirements for flame resistance and corrosiveness in GSA specification HH-I-515C. The Commission must publish such a revision as a proposed amendment within 45 days after having received notice from the Administrator of the General Services Administration, or, if a revision becomes effective between February 1, 1978 and the effective date of the act, within 45 days of the effective date of the act. Pub. L. 95-319 provides that the Commission may extend the 45-day period for publishing the proposed amendment by 150 days if the Commission determines that an extension is necessary to study the technical and scientific basis for the revision, or to study the safety and economic consequences of the revision.

On June 15, 1978, GSA specification HH-I-515D became effective. This specification contains requirements for the flame resistance and corrosiveness of cellulose insulation that supersede the flame resistance and corrosiveness provisions of HH-I-515C. Therefore, the Commission must publish the proposed amendment to the interim standard by August 24, 1978, unless the Commission extends this period.

The Commission believes that it is necessary to extend the period of time for proposing the flame resistance and corrosiveness requirements of HH-I-515D as an amendment to the interim standard in order to study the technical and scientific basis and the safety and economic consequences of these requirements. Pub. L. 95-319 provides that the Commission may not issue an amendment to the interim standard if the Commission determines, after considering public comments, that the amendment is not necessary to protect consumers from the unreasonable risk of injury associated with flammable or corrosive cellulose insulation or if the Commission determines that implementation of the amendment will create an undue burden on persons subject to the interim standard. Therefore, the Commission is required to consider these issues.

The Commission expects that an extension of the time to propose an amendment to the interim standard will allow the Commission to fill gaps in the technical data, consolidate and update current economic data, and resolve data conflicts in both the technical and economic areas. Professional

technical judgment on the properties and performance of cellulose insulation continues to vary among industry experts. Additional technical knowledge may provide assistance in analyzing the economic consequences of the revision. Corrosion testing of cellulose insulation has been conducted by Underwriters Laboratories and Dynatech R/D Company in recent weeks. Preliminary indications are that a high percent of the material tested failed. Results of the corrosion test in the interim standard are not expected to vary to a significant degree from results of corrosion tests under the revision to the interim standard. As a result, empirical data on the corrosion test in the interim standard, which will be generated when the interim standard becomes effective, on September 8, 1978, may assist in evaluating the economic consequences of the revision. The Commission believes that an extension of 150 days is necessary to study the technical and scientific basis and safety and economic consequences of the revision. If the Commission is able to complete its work before January 22, 1979, the Commission will publish the proposal at an earlier date. Therefore, in accordance with section 35(c)(2)(c)(ii) of the act, as amended by Pub. L. 95-319, the Commission extends by 150 days, from August 24, 1978 until January 22, 1979, the time in which it must publish the flame resistance and corrosiveness requirements of GSA specification HH-I-515D as a proposed amendment to the interim standard for cellulose insulation at 16 CFR part 1209. In accordance with Pub. L. 95-319, this period may be further extended by the Commission if that becomes necessary.

Dated: August 2, 1978.

SHELDON D. BUTTS,

Acting Secretary, Consumer Product Safety Commission.

[FR Doc. 78-22035 Filed 8-7-78; 8:45 am]

[6355-01]

Title 16—Commercial Practices

CHAPTER II—CONSUMER PRODUCT SAFETY COMMISSION

PART 1209—INTERIM SAFETY STANDARD FOR CELLULOSE INSULATION

Establishment of Interim Safety Standard

AGENCY: Consumer Product Safety Commission.

ACTION: Establishment of interim standard.

SUMMARY: In this document the Commission issues an interim mandatory safety standard to eliminate or reduce unreasonable risks of injury to consumers from flammable and corrosive cellulose insulation. In recently enacted legislation, Congress directed the Commission to issue this interim standard. The interim standard is based on flame resistance and corrosiveness provisions in a Federal specification for cellulose insulation issued by the General Services Administration (HH-I-515C). In addition, the interim standard requires manufacturers and private labelers of cellulose insulation to provide a specific informative label on all containers of cellulose insulation.

DATES: The interim standard is effective on September 8, 1978. Cellulose insulation manufactured after September 7, 1978, must comply with the interim standard.

FOR FURTHER INFORMATION CONTACT:

Wade D. Anderson, Directorate for Compliance and Enforcement, Consumer Product Safety Commission, Washington, D.C. 20207, 301-492-6400.

SUPPLEMENTARY INFORMATION:

I. BACKGROUND

LEGISLATION

On July 11, 1978, the "Emergency Interim Consumer Product Safety Standard Act of 1978," Pub. L. 95-319, became law. This legislation amended the Consumer Product Safety Act (CPSA) (15 U.S.C. 2051 et seq.) by adding a new section, section 35, that provides an interim consumer product safety standard for cellulose insulation. In establishing this interim standard, Congress found that:

(1) Existing Federal, State, and local laws and regulations are insufficient to protect the consumer from improperly manufactured cellulose insulation;

(2) An unreasonably large quantity of cellulose insulation is being distributed that does not meet minimum safety standards;

(3) An urgent need exists for the expedited setting of interim mandatory Federal standards for the manufacture of cellulose insulation; and

(4) Such standards are reasonably necessary to eliminate or reduce an unreasonable risk of injury to consumers from flammable or corrosive cellulose insulation.

The new section 35(a)(1) of the CPSA, provides that 60 days after July 11, 1978, the day the legislation became law, the requirements for flame resistance and corrosiveness in the General Services Administration's (GSA) specification for cellulose insulation, HH-I-515C (as that specification was in effect on February 1, 1978) are considered to be an interim consumer product safety standard having all the authority and effect of any other consumer product safety standard issued by the Commission under the Act.

Section 35(a)(2) of the Act requires the interim consumer product safety standard to provide that any cellulose insulation that is a consumer product must have a flame spread rating of 0 to 25, determined in accordance with the test procedures as provided by the GSA specification. The legislation provides that during the 45-day period after the effective date of the legislation, the Commission may make technical nonsubstantive changes in the GSA specification to make the requirements suitable for issuance as a consumer product safety standard. During this 45-day period the Commission must publish in the FEDERAL REGISTER any technical nonsubstantive changes it makes to GSA specification HH-I-515C.

In accordance with the legislation, by September 8, 1978, the Commission must publish in the FEDERAL REGISTER the interim consumer product safety standard, as altered. In this document the Commission is publishing the technical nonsubstantive changes it has made to he GSA requirements and is publishing the interim standard, as altered by these changes.

Section 35(b) of the Act provides that judicial review of the interim consumer product safety standard, is limited solely to the issue of whether any technical changes made by the Commission are nonsubstantive.

Section 35(c)(1)(A) of the Act provides that any interim consumer product safety standard established under that section is to be enforced in the same manner as any other consumer product safety standard. A violation of the interim standard is considered to be a violation of a consumer product safety standard issued by the Commission under section 9 of the Act. Thus, on and after the effective date of the interim standard, it shall be an unlawful act under secion 19(a) of the CPSA (15 U.S.C. 2068(a)) for any person to manufacture for sale, offer for sale, distribute in commerce, or import into the United States any cellulose insulation subject to the interim standard which is not in conformity with this interim standard. The civil and criminal penalty provisions of sections 20 and 21 of the Act (15 U.S.C. 2069, 2070) are available to the Commission in enforcing this interim standard. In addition, the injunctive and seizure enforcement provisions of section 22 of the Act (15 U.S.C. 2071) are available to the Commission in enforcing the interim standard.

REVISIONS TO THE INTERIM STANDARD AND ESTABLISHMENT OF A FINAL STANDARD

The "Emergency Interim Consumer Product Safety Standard Act of 1978" provides, at section 35(c)(1)(B), that the Commission must issue a final safety standard for cellulose insulation if it determines that the interim consumer product safety standard does not adequately protect the public from the unreasonable risk of injury associated with flammable or corrosive cellulose insulation. A final standard must be issued under 5 U.S.C. 553, except that the Commission must give interested persons an opportunity for the oral presentation of data, views, or arguments in addition to an opportunity to make written submissions. A transcript must be kept of any oral presentation. The provisions of section 9 (b), (c), and (d) of the Act apply to the issuance of a final standard.

The "Emergency Interim Consumer Product Safety Standard Act of 1978" also provides that until a final consumer product safety standard is in effect, the Commission must incorporate into the interim standard each revision GSA issues that supersedes the requirements for flame resistance and corrosiveness in GSA specification HH-I-515C. The Commission must propose the revision and give interested persons an opportunity to comment on any proposed amendment. The Commission must issue the amendment unless the Commission determines, after consulting with the Secretary of Energy, that the amendment is not necessary to protect consumers from the unreasonable risk of injury associated with flammable or corrosive cellulose insulation or that implementation of the amendment will create an undue burden on persons who are subject to the interim consumer product safety standard.

The General Services Administration has informed the Commission that, effective June 15, 1978, it has issued GSA specification HH-I-515D. Since this specification contains requirements for flame resistance and

corrosiveness for cellulose insulation that supersede the requirements of GSA specification HH-I-515C, the Commission is required by Pub. L. 95-319 to publish the flame resistance and corrosiveness provisions of HH-I-515D as a proposed amendment to the interim standard issued here. Elsewhere in this issue of the FEDERAL REGISTER the Commission has extended, from August 24, 1978, until January 22, 1979, the time in which it must publish the proposed amendment to the interim standard.

COMMISSION ACTIVITIES CONCERNING CELLULOSE INSULATION

On October 20, 1976, the Commission received a petition (CP 77-1) from the Metropolitan Denver District Attorney's Consumer Office requesting the Commission to initiate a standard development proceeding to address certain risks of injury alleged to be associated with cellulose, fibrous glass, and plastic foam/resin home insulation.

After considering information gathered by its staff in analyzing the issues raised by the petition, the Commission, on August 22, 1977, held a public meeting to enable interested persons to present data, views, and arguments to assist the Commission in determining whether or not the petition should be granted. The Commission solicited written comments on the petition until October 21, 1977. After considering the oral and written comments, as well as an oral briefing of the issues by the staff, the Commission on November 10, 1977, instructed the staff to prepare a briefing package and a draft FEDERAL REGISTER notice to initiate a standard development proceeding to address the fire hazards associated with cellulose home insulation. On February 9, 1978, after considering this information, the Commission preliminarily determined that a consumer product safety standard is necessary to eliminate or reduce the unreasonable risk of injury from fire associated with cellulose home insulation.

On March 13, 1978, the Commission published a notice in the FEDERAL REGISTER (43 FR 10427) to begin a proceeding under section 7 of the CPSA (15 U.S.C. 2056) to develop a mandatory standard to address the unreasonable risk of injury from fire associated with cellulose home insulation. The notice invited interested persons to submit either (1) an offer to develop a recommended consumer product safety standard or (2) an existing standard to serve as a recommended consumer product safety standard. In response to the notice of proceeding, the Commission received 11 submissions from interested persons. As a result of the passage of the legislation and the Commission's issuance of an interim safety standard for cellulose insulation, the Commission, in a notice published elsewhere in this issue of the FEDERAL REGISTER, has withdrawn the notice of proceeding.

II. DESCRIPTION OF THE INTERIM STANDARD

The interim standard, 16 CFR Part 1209, published below, prescribes flame resistance and corrosion requirements for cellulose insulation manufactured for use as a consumer product. The interim standard applies to all such cellulose insulation manufactured after September 7, 1978

Although the interim standard prescribes test methods to determine whether cellulose insulation meets the requirements of the interim standard, the interim standard itself does not require that a manufacturer test products. However, section 14 of the Consumer Product Safety Act (CPSA) (15 U.S.C. 2063) requires any manufacturer or private labeler of a product subject to a standard to certify that the product conforms to the standard. The certification must be based on either a test of each product or a reasonable testing program. The Commission may in the future issue regulations or provide guidelines as to what constitutes a reasonable testing program for certification purposes. However, for the present, manufacturers and private labelers must determine what constitutes a testing program adequate to insure that the product being produced and distributed conforms to the interim standard. For the present, for purposes of enforcement, the Commission intends to use the test procedures in the interim standard to determine whether items meet the requirements of the standard.

After September 7, 1978, no person shall manufacture for sale, offer for sale, distribute in commerce, or import into the United States cellulose insulation subject to the interim standard which does not comply with the interim standard. Cellulose insulation manufactured before September 8, 1978, is not subject to the interim standard and may be offered for sale, distributed in commerce, or imported into the United States after the effective date of the interim standard.

As provided by Pub. L. 95-319, the interim standard is intended to eliminate or reduce the unreasonable risk of injury to consumers presented by flammable and corrosive cellulose insulation. The interim standard contains the requirements for flame resist- ance and corrosiveness set forth in the GSA specifications for cellulose insulation HH-I-515C (as that specification was in effect on February 1, 1978). In addition, it contains requirements imposed by Pub. L. 95-319. In particular, the interim standard is based on the following:

1. Paragraph 3.1 of the GSA specification, which specifies material requirements relating to flame resistance permanency and corrosion by referencing American Society for Testing and Materials (1916 Race Street, Philadelphia, Pa. 19103) (ASTM) C 739-77 "standard specification for cellulosic fiber (wood-base) loose fill thermal insulation" (ASTM C 739-77),

2. Subparagraph 3.2.1 of the GSA specification, which provides for a specified flame spread rating when tested in accordance with ASTM E 84-77a "standard test method for surface burning characteristics of building materials" (ASTM E 84-77a),

3. Provisions of ASTM C 519-65 "standard test method for density of fibrous loose fill building insulation" (ASTM C 519-65) providing alternate test methods for determining the density of insulation as specified by the manufacturer, or chosen by the Commission where the manufacturer does not specify the test method for determining density,

4. Provisions of ASTM D 2016-74 "standard test methods for moisture content of wood" (ASTM D 2016-74) providing a standard test method for determining the moisture content of wood. These provisions are referenced in the procedures for calibration of test equipment for determining flame spread classification that are included in ASTM C 739-77 and ASTM E 84-77a respectively,

5. The requirement in the act that cellulose insulation must have a flame spread rating of 0 to 25, when tested in accordance with the procedures in the interim standard, and

6. The requirement in the act for labeling of containers of cellulose insulation.

Following is a section-by-section description of the interim standard.

A. SCOPE AND APPLICATION (§ 1209.1)

Section 1209.1 of the interim standard describes its scope and application. As required by the act, the interim standard prescribes flame resistance and corrosion requirements for cellulose insulation. The interim standard applies to celluose insulation that is a consumer product, i.e. insulation that is produced or distributed for sale to or for the personal use, consumption, or enjoyment of consumers in or around a permanent or temporary household or residence, a school, in recreation, or otherwise. The interim standard applies to cellulose insulation that is produced or distributed for sale to consumers for their direct installation or use, as well as insulation that is produced or distributed for installation by professionals. As required by section 9(d)(1) of the act (15 U.S.C.

2058(d)(1)) and the new section 35(a)(1), the interim standard applies only to cellulose insulation manufactured on or after the effective date of the interim standard (September 8, 1978).

B. DEFINITIONS (§ 1209.2)

Section 1209.2 of the interim standard defines the consumer product covered by the interim standard. For purposes of the interim standard, "cellulose insulation" means cellulosic fiber, loose fill, thermal insulation that is suitable for blowing or pouring applications. The definition includes insulation installed using the "wet process" method of installation. (The "wet process" insulation is blown into an area with a spray or mist of water applied at the nozzle during installation.)

C. GENERAL REQUIREMENTS (§ 1209.3)

Section 1209.3 of the interim standard lists the general requirements of the interim standard. Section 1209.3(a) requires all cellulose insulation covered by the interim standard to have a flame spread rating not greater than 25 when tested in accordance with the test procedures at § 1209.4. This provision is required by the new section 35(a)(2) of the act. Paragraph 1.2 of the GSA specification requires insulation to be of either of two classes—one with a flame spread rating of 0–25 and the other with a flame spread rating of 26–50, when tested in accordance with the test method provided in ASTM E 84–77a (the test method provided at section 1209.4 of the interim standard). The legislative history of Pub. L. 95–319 indicates that Congress intended the interim standard to narrow the range of acceptable cellulose insulation for a number of reasons. First, the GSA specification at paragraph 6.6 recommends that cellulose insulation with a flame spread rating not exceeding 25 be used in applications which require a higher flame spread resistance. The legislative history states that installation of cellulose insulation in homes presents such a situation. In addition, because the conditions where cellulose insulation is installed and installation techniques for insulation for consumer use cannot always be checked as they could in a GSA procurement situation, the legislative history concludes that caution requires the use of material with greater flame resistance. According to the legislative history, a flame spread rating of 0–25 should provide a greater measure of safety to consumers. (H.R. Rept. No. 95–1116 95th Cong., 2d sess., 5 (1978).)

Section 1209.3(b) of the interim standard requires all cellulose insulation covered by the interim standard to be treated with fire retardant chemicals that are permanent when tested in accordance with the flame resistance permanency test at § 1209.5 of the interim standard. This requirement is derived from paragraph 3.1 of the GSA specification HH–I–515C, which requires cellulose insulation to be in accordance with ASTM C 739–77. ASTM C 739–77 provides a test for flame resistance permanency, at paragraph 10.4, designed to determine the permanency of the chemicals used as fire retardants. The requirement that fire retardant chemicals be permanent has been included in the interim standard as a flame resistance requirement since this property directly affects the flame resistance of the cellulose insulation. Cellulose insulation that is manufactured with fire retardant chemicals that are not permanent in nature may not retain the flame resistant properties required by the interim standard.

Section 1209.3(c) of the interim standard requires that all cellulose insulation subject to the standard not be corrosive when tested in accordance with the test procedures for corrosiveness at § 1209.6. Section 35(a)(1) of the act requires the Commission to include in the interim standard the requirements for corrosiveness in GSA specification HH–I–515C. This requirement at § 1209.3(c) is derived from paragraph 3.1 of the GSA specification HH–I–515C, which requires cellulose insulation to be in accordance with ASTM C 739–77. ASTM C 739–77, at paragraph 10.7, provides a test to determine the corrosive properties resulting from high humidity and moisture and from chemical constituents of the insulation, which may react with metal sidings and other metallic building materials.

Section 1209.3(d) of the interim standard requires containers of cellulose insulation to have a labeling statement in accordance with the labeling requirements at section 1209.9. Section 35(a)(3) of the act requires each manufacturer or private labeler of cellulose insulation to include this statement on any container of cellulose insulation.

The Commission has not included in this interim standard the requirement at paragraph 3.2.2 of HH–I–515C that material have a smoke developed rating not greater than 50 when tested in accordance with ASTM E 84. Section 35(a)(1) of the act, as amended, requires the Commission to include the requirements for flame resistance and corrosiveness set of forth in HH–I–515C. The smoke developed rating requirement of HH–I–515C has not been included in the interim standard since it is not part of the requirements for flame resistance or corrosiveness set forth in HH–I–515C.

Paragraph 1.3 of ASTM E 84–77a states that there is not necessarily a relationship among measurements for smoke density and flame spread rate. The smoke developed rating measurement of subparagraph 3.2.2 of HH–I–515C does not necessarily establish a relationship between the density of smoke and its lethality. For example, although low levels of particulate matter may be detected from the combustion of some materials, giving a passing smoke development rating, the level of CO gas may be high. A frequently stated cause of death associated with fires is smoke inhalation of toxic gases, such as CO and CO_2. The Commission has also not included in the interim standard the provisions of ASTM E 84–77a for recording photoelectric cell measurements and determining smoke developed rating, since these provisions are not part of the flame resistance or corrosiveness provisions of HH–I–515C.

Although the interim standard does not include those provisions of GSA specification HH–I–515C that reference the procedure for determining smoke developed rating (ASTM E 84–77a, 3.8, 5.8, 5.9, 6.4, 6.7, 7.2) the Commission believes that the equipment used to measure smoke developed rating should be included in the description of the Steiner Tunnel test apparatus for determining flame resist- ance. Accordingly, at § 1209.4(a)(7) and (8) the Commission has included in the description of the Steiner Tunnel test apparatus the description of the equipment in ASTM E 84–77a used to obtain a measure of the smoke developed rating. This equipment is normally used in conjunction with the Steiner Tunnel test apparatus. Although the equipment is not used in testing under this standard, the description of the apparatus includes this equipment since removal of the equipment could conceivably cause variability of test results.

The Commission has not included subparagraph 1.1 of HH–I–515C, Scope, as part of the interim standard since this subparagraph refers to the scope of the GSA specification and is inappropriate for inclusion as part of a mandatory standard. However, at § 1209.1 of the interim standard the Commission has included a section that describes the scope and application of the interim standard, as provided by Pub. L. 95–319.

The Commission has not included paragraph 2 of HH–I–515C, applicable documents, as part of the interim standard since the interim standard includes the applicable text of ASTM C 739–77 and ASTM E 84–77a and the documents in paragraph 2 of HH–I–515C that are included in the flame resistance and corrosiveness requirements of HH–I–515C.

The Commission has also not included in the interim standard the requirement at paragraph 3.1.4 of HH–I–515C

that the density of loose fill insulation must be not more than 3 pounds per cubic foot when tested as specified in ASTM C-739. This requirement has not been included in the interim standard since it is not part of the requirements for flame resistance or corrosiveness set forth in HH-I-515C.

The Commission has not included in the interim standard subparagraphs 3.1.2 reclaimed fibers, 3.1.3 reclaimed fiber content, 3.1.5 starch, and 3.2.3 workmanship, of HH-I-515C since these subparagraphs are not part of the flame resistance or corrosiveness requirements of HH-I-515C.

The Commission has not included in the interim standard paragraphs 3.2 marking, 4 quality assurance provisions, 5 preparation for delivery, and 6 notes, of HH-I-515C since these paragraphs are not part of the flame resistance or corrosiveness requirements of HH-I-515C.

D. TECHNICAL, NONSUBSTANTIVE CHANGES IN THE FLAME RESISTANCE AND CORROSION REQUIREMENTS OF GSA SPECIFICATION HH-I-515C.

The new section 35(a)(1) of the CPSA authorizes the Commission to make technical, nonsubstantive changes in the flame resistance and corrosion requirements of GSA specification HH-I-515C to make these requirements suitable for issuance as a consumer product safety standard. Section 35(b) provides that judicial review of the interim standard is limited solely to the issue of whether any technical changes the Commission has made are nonsubstantive. Section 35(b) of the act also provides that for purposes of judicial review, any change made by the Commission which requires any test to determine the flame spread rating of cellulose insulation to include a correction for variations in test results caused by equipment used in the test shall be considered a technical, nonsubstantive change.

The legislative history of the act describes technical nonsubstantive changes as "changes which will not create a significant impact on the regulated industry." (H.R. Rep. No. 95-1322, 95th Cong., 2d sess. 9 (1978) and H.R. Rep. No. 95-1116, 95th Cong., 2d sess. 5 (1978).)

In attempting to apply the legislative criteria to the changes it has made to the GSA specification the Commission believes it is helpful to examine cases where the courts have considered similar criteria for assessing the impact of administrative actions on regulated industry. In interpreting the notice and comment requirements under the Administrative Procedure Act (5 U.S.C. 553) the court in *Pharmaceutical Manufacturer's Association* v. *Finch*, 307 F. Supp. 858 (1970), held that certain regulations were invalidly issued without an opportunity for notice and comment since the regulations would have had a substantial impact on persons affected by the regulations. The court found that the regulations were pervasive in their scope and had an immediate and substantial impact on the way industry members conducted their everyday business. The regulations applied to more than 2,000 drug products first marketed between 1938 and 1962 with FDA approval and placed all of the products in jeopardy, subject to summary removal by order of the FDA. In *Texaco, Inc.* v. *Federal Power Commission*, 412 F. 2d 740 (3d Cir. 1969), the court held that an administrative rule was invalidly issued without an opportunity for notice and comment since the rule was not "minor". The rule in question would have established for the first time the requirement that compound interest be paid on amounts ordered refunded and would affect many natural gas companies and potentially involve large sums of money. If the considerations in these cases for assessing the impact of administrative action on persons subject to the action are applied to the changes the Commission has made to HH-I-515C, the changes made by the Commission do not have a significant impact on the regulated industry. Manufacturers who are currently complying with the flame resistance and corrosiveness requirements of HH-I-515C would not be subject to a substantial impact on their everyday business and would not be subject to new requirements having a potentially severe impact on their business. The Commission has carefully considered each of the changes it has made to HH-I-515C and has determined that the changes, considered separately and collectively, are technical, nonsubstantive changes that will not create a significant impact on the regulated industry.

In issuing the interim standard, the Commission has made various technical, nonsubstantive changes and editorial changes in the flame resistance and corrosion requirements of the GSA specification. The Commission does not believe that these changes will have a significant impact on the regulated industry. The Commission made these changes in order to:

(1) Ease some of the restrictive specifications for the test apparatus and test procedures,

(2) Simplify the test procedures,

(3) Eliminate provisions in the requirements that are unrelated to cellulose insulation, and

(4) Increase the likelihood that consistent test results will be obtained.

The Commission staff has discussed the technical changes with many persons who operate and are familiar with the test equipment requirements included in the interim standard. None of these persons indicated that the changes would have any impact on the regulated industry, let alone a significant impact.

The Commission has also made several editorial changes in the flame resistance and corrosion requirements of GSA Specification HH-I-515C. These changes are nonsubstantive and are intended to clarify the meaning and application of the requirements and also make the requirements suitable for issuance as a consumer product safety standard. They involve, primarily, changes needed to join together various provisions of the GSA specification that apply to corrosiveness- and flame-resistance requirements.

The Commission has made the following technical nonsubstantive changes:

(1) The Commission has added tolerances to a number of measurements in §§ 1209.4 and 1209.7. The purpose of these tolerances is to allow a limited leeway for variations in test procedures or equipment. The tolerances in describing the test apparatus are included since it is not practical to manufacture commercially a product to zero tolerance. The changes that are included accurately describe existing test apparatus. The changes will not have a significant impact on regulated persons since they will ease restrictive specifications of the test apparatus that could limit the availability of the test apparatus. The tolerances that have been included in describing the distances or durations for recording measurements have been included since it is not practical to record a distance or time duration to a zero tolerance. These changes will not have a significant impact on regulated persons since they will ease some of the restrictive specifications for the test procedures.

The Commission has made the following specific changes related to tolerances:

At § 1209.4(a)(1) of the interim standard, the Commission has included a tolerance of $\pm 1/16$ inch to describe the thickness of the asbestos fabric gasketing tape, as well as a tolerance of ± 3 inches to describe the length of the fire test chamber. At § 1209.4(a)(4) the Commission has replaced nominal 2 inches with a tolerance of 3 ± 1 inch to describe the insulation for the top of the fire chamber. At § 1209.4(a)(5) the Commission has included a tolerance of ± 1 inch to describe the spacing of the burners. At § 1209.4(a)(5) the Commission has added the word "nominal" to describe the pipe elbow burner outlet. This is to indicate that the number is being used as a name or label and may vary with industry custom or practice. At § 1209.4(a)(6)

the Commission has included a tolerance of ±¼ inch to describe the diameter of the flue pipe at the vent end of the fire test chanber. The Commission has also included a tolerance of minus 0, plus 1/16 inch to describe the embedded thermocouple. The Commission has, at § 1209.4(c)(1) included a tolerance of ±1/32 inch to describe the asbestos-cement board. At § 1209.4(c)(3) the Commission has included tolerances of ±1 inch (7 mm) to describe the distance for recording the air velocity from the burner ports and to describe the length of the straightening vanes. At § 1209.4(c)(5) the Commission has included a tolerance of ±6 inches to describe the distance the test flame must extend downstream. At § 1209.4(c)(8) the Commission has included a tolerance of ±6 inches to describe the distance intervals for making observations in calibration tests with red oak flooring that are conducted in the fire test chamber. At § 1209.4(d)(1) the Commission has included tolerances of ±¼ inch and ±1/16 inch to describe the test frame supporting the specimen holder. In this same section, the Commission has described the steel angles of the test frame with nominal dimensions, to indicate that the dimensions may vary with industry custom or practice. At § 1209.4(d)(3) the Commission has included a tolerance of ±2 seconds to describe the duration of the test for determining flame front distance.

(2) At § 1209.4(a)(5) the Commission has included a provision in the description of the fire test chamber that would, as an option of the test operator, allow a draft gage tap to be inserted through the top of the fire end of the tunnel. This change will not have a significant impact on persons subject to the interim standard since it is an option. This location for the draft gage tap to indicate static pressure is currently under consideration by the ASTM Steiner Tunnel operators and is intended to make the test more reproducible. At § 1209.4(c)(3) the Commission has included an alternate air velocity reading range to be used if the draft gage tap is inserted through the top of the "fire end" of a tunnel.

(3) At § 1209.4(a) (7) and (8) the Commission has included in the description of the Steiner Tunnel test apparatus for measuring flame resistance the description of the equipment in ASTM E 84-77a used to obtain a measure of the smoke developed rating. The smoke developed rating measurement is not required under the interim standard, since it is not a part of the flame resistance or corrosiveness requirements of GSA specification HH-I-515C. Accordingly, the interim standard does not include those provisions of the GSA specification HH-I-515C that reference the procedure for determining smoke developed rating (ASTM E 84-77a, 3.8, 5.8, 5.9, 6.4, 6.7, 7.2). However, the Commission believes that the equipment used to measure smoke developed rating should be included in the description of the Steiner Tunnel test apparatus because the smoke developed rating equipment is normally used in conjunction with the Steiner Tunnel test apparatus, and the removal of the equipment could result in variability of the test results.

(4) At § 1209.4(c)(3) the Commission has corrected a typographical error in the ASTM standard. The metric measurement of the air velocity should be expressed as "73.2" instead of "7.32" meters. At § 1209.4(c)(8) the Commission has corrected another typographical error in the ASTM standard. The measurement of the red oak flooring should be 25/32 inch instead of the 23/32 inch.

(5) At § 1209.4(d)(1) the Commission has changed the description of the screen for holding the test specimen from "galvanized steel" to "steel." Operators of the tunnel test apparatus have indicated to the Commission that galvanized steel screens may be difficult to obtain at this time and that many of the tunnel operators are presently using other forms of steel screening. Since the tunnel operators have indicated that the type of steel material used in the screening does not have an effect on the test results, this change would not have a significant impact on persons subject to the interim standard. At § 1209.4(d)(1) of the interim standard, the Commission has included a description of the wire size for the metal screen in order to minimize variations in test results. The tunnel operators have indicated to the Commission that these wire sizes, with the tolerances indicated, are currently being used, so that persons subject to the interim standard would not be affected by the inclusion of this specification.

(6) At § 1209.4(d)(1) the Commission has included a provision that would allow the Commission to determine the density of the cellulose insulation using the blown in and/or poured density test method at § 1209.7, if the manufacturer fails to specify the density of the insulation. The inclusion of this provision will not have a significant impact on persons subject to the standard since this section preserves the option of the manufacturer to specify the density of the insulation. HH-I-515C, through appendix X1.6 of ASTM E 84-77a, provides that in preparing specimens for the flame spread classification test, the insulation shall be packed to the density specified by the manufacturer. By including a provision that would allow the Commission to determine the density, the Commission has avoided the situation where the flame spread classsification test could not be conducted because of the failure of a manufacturer to specify the density of the insulation. The test method at § 1209.7 is derived from ASTM C 519-65, "The Standard Test Method for Density of Fibrous Loose Fill Building Insulation." This test method is commonly used for determining the density of cellulose insulation, and has been referenced in paragraph 3.1.4. of HH-I-515C.

(7) At § 1209.4(f) of the interim standard, the Commission has not included paragraph 8.1 of ASTM E 84-77a, Analysis of Products of Combustion. This paragraph provides that during the progress of the test for determining surface burning characteristics, products of combustion may be drawn from the test duct for chemical analysis. Since this provision is not required as part of the test method and is an optional provision, the Commission does not believe that this provision is apropriate for inclusion in the mandatory standard.

(8) At § 1209.4(f)(4) of the interim standard, the Commission has deleted "delamination" and "shrinkage" as burning characteristics to be observed in the flame spread classification test. Delamination and shrinkage are characteristics that are unrelated to cellulose insulation.

(9) At § 1209.6(a)(4) of the interim standard, the Commission has added 1,1,1-trichloroethane as an analytical reagent that may be used as a substitute for trichloroethylene in the test for corrosiveness. This addition has been made since trichloroethylene may present a carcinogenic hazard and 1,1,1-trichloroethane is a suitable degreasing substitute that has been tested and not found to be a carcinogen. The Commission has learned that at least one major corrosion testing organization is currently using 1,1,1-trichloroethane as an analytical reagent in this test. Although the use of 1,1,1-trichloroethane as a substitute reagent is not required, the Commission strongly recommends that persons conducting the test use 1,1,1-trichloroethane. Since 1,1,1-trichloroethane is a suitable substitute that is currently being used, the change will not have a significant impact on persons subject to the interim standard.

(10) At 1209.7 the Commission has not included an insulation thickness indicator which is included in ASTM C 519-65, Standard Test Method for Density of Fibrous Loose Fill Building Insulation. This indicator has not been included since the Commission does not consider it to be necessary for determining the insulation density. This change will have no effect on persons subject to the standard because the manufacturer has the option of speci-

fying the density at which his insulation should be tested for flame spread and because the density of the insulation can be accurately determined without this device.

E. TEST PROCEDURES (§ 1209.4, § 1209.5, § 1209.6, § 1209.7, § 1209.8)

(1) *Test procedures for flame resistance* (§ 1209.4, § 1209.7, § 1209.8). The interim standard at section 1209.4 includes test procedures for flame resistance. The test procedures at § 1209.4 are those of ASTM E 84-77a, the current version of the standard referenced at subparagraph 3.2.1. of GSA specification HH-I-515C. The test method involves the use of Steiner Tunnel test apparatus to determine how quickly the insulation will burn when compared to other materials. The insulation is assigned a "flame spread classification" based on an evaluation of the rate of flame spread over the surface of the test material when exposed to a test fire. For purposes of establishing a comparison, asbestos-cement board is assigned a flame spread classification of 0 when tested in the tunnel and red oak flooring is assigned a flame spread classification of 100. Section 1209.4(a) describes the design and construction of the fire test chamber. Section 1209.4(b) describes the test specimens and their conditioning.

At § 1209.4(c) the interim standard provides for the calibration of test equipment for conducting the flame spread classification tests. In conducting tests with red oak flooring to properly calibrate the Steiner Tunnel, the interim standard provides at § 1209.4(c)(8) that the red oak flooring must be conditioned to 6- to 8-percent moisture content as determined by the 221° F (105° C) oven-dry method described at § 1209.8. This test method is the oven-dry method in ASTM D 2016-74, "Standard Test Methods for Moisture Content of Wood," as provided in paragraph 5.8 of ASTM E 84-77a. At § 1209.4(c)(9) the interim standard provides that prior to performing the surface burning test for cellulose insulation, the operator must develop a correction factor for the red oak flooring incorporating the steel screening, as described in § 1209.4(b)(2). This correction factor, provided by subparagraph 10.3.1 of ASTM C 739-77, is intended to promote consistency in test results by requiring all test facilities which conduct the surface burning test in accordance with this standard to apply the appropriate correction factor. The metal screen absorbs heat and thus retards flame spread and may make a measurable difference in the determination of the flame spread rating of cellulose insulation. The purpose of the correction factor is to promote uniformity among test results at different test facilities and to insure a flame spread rating that is indicative of the relative performance of the material in the Steiner Tunnel. The test material fails the interim standard if the corrected flame spread classification is over 25.

Since the method for determining flame spread rating under HH-I-515C requires that insulation be tested at a density specified by the manufacturer (appendix X1.6 of ASTM E 84-77a) the Commission has included this provision at § 1209.4(d)(1) of the interim standard. Although § 1209.4(d)(1) preserves the option of the manufacturer under HH-I-515C to specify the density at which the insulation should be tested, this section also provides that if the manufacturer fails to specify a density the Commission will determine the density of the insulation by using the blown in and/or poured density method at § 1209.7.

(2) *Test procedures for flame resistance permanency* (§ 1209.5). The interim standard, at section 1209.5 includes test procedures for determining flame resistance permanency. These test procedures are derived from paragraph 10.4 of ASTM C 739-77 and are required by paragraph 3.1 of GSA specification HH-I-515C. The test procedures subject the insulation to an accelerated aging procedure designed to determine the permanency of the chemicals used as fire retardants by aging a test specimen in a humidity chamber and then testing the aged and nonaged specimen in a 2-foot flame tunnel apparatus. If the insulation tested received a flame spread rating of greater than 20 when tested in the 25-foot Steiner Tunnel then the aged and unaged specimens must be tested directly in the 25-foot tunnel. A numerical determination is made of flame spread of the aged specimen and the nonaged specimen. Where flame spread of the aged specimen in the 2-foot apparatus is 1.20 or more times that of the nonaged specimen, the flame resistance permanency test must be repeated using the 25-foot Steiner Tunnel Test method specified for determining flame spread classification at § 1209.4. A change in flame spread classification in the 25-foot tunnel as modified in this standard constitutes a failure of the test.

(3) *Test procedures for corrosion* (§ 1209.6). The interim standard, at § 1209.6, includes test procedures for corrosion. These test procedures are the test procedures of paragraph 10.7 of ASTM C 739-77 and are required by § 3.1 of GSA specification HH-I-515C. The test is intended to determine the corrosive properties resulting from high humidity or moisture in cellulose insulation. From this action, varying amounts of chemical constituents may migrate resulting in a possible reaction with metallic building materials. The test is an accelerated test intended to simulate conditions likely to cause chemical migration to metallic surfaces. The test involves comparison of corrosion between very thin aluminum, copper, and steel specimens in good contact with water-saturated insulation and duplicate metal control specimens not in contact with the test insulation. Both sets of metal specimens are placed in a humidity chamber for 7 days. Extended 30-day tests are conducted on aluminum and copper coupons wher. minor surface etching occurs. Extended 30-day tests are conducted on any steel coupon where corrosion of the insulated specimen compares unfavorably with that of its corresponding control specimen. Noncorrosiveness is determined by the absence of any perforations when the metal specimen is observed over a chrome reflected 40-watt appliance light bulb after the extended 30-day test. If any perforation occurs, then the sample has failed the test.

(4) *Reference to brand names.* At several sections the interim standard includes references to particular brands of products that have been found suitable by others for the purposes indicated in the interim standard. (See § 1209.4(a)(1), references to A. P. Green brick, Vycor and Pyrex glass; § 1209.4(a)(2), reference to Zircon; § 1209.4(a)(7) reference to Weston Instruments No. 856BB Photronic cell; § 1209.4(c)(3) reference to Thermo Systems, Inc., Model 1610 velocity transducer; and § 1209.5(a)(2) reference to Custom Scientific Instrument (CSI) 2-foot flame spread test tunnel (Model C-196CL).) These products are referenced in the portions of the ASTM standards that are included in the flammability and corrosion provisions of GSA specification HH-I-515C. Although the Commission staff has not verified that these products are in fact suitable or available for the specified purposes, the products are included in the interim standard as guidance for those persons conducting tests. Equivalent products may, of course, be used for the purposes specified in the interim standard.

III. OTHER CONSIDERATIONS

FINDINGS

Since the "Emergency Interim Consumer Product Safety Standard Act of 1978" establishes the interim consumer product safety standard by legislation, the Commission has not included in this interim standard the findings such as those regarding risk of injury and economic data under section 9(c) of the act (15 U.S.C. 2059(c)) that the Commission must consider before it can issue its own consumer product safety rule. In addition, for the same

reason the Commission has not included information usually required under section 9(b) of the act (15 U.S.C. 2058(b)) regarding special needs of elderly and handicapped persons to determine the extent to which such persons may be adversely affected by the rule. However, the Commission has no information suggesting that the interim standard would have any adverse effect on elderly and handicapped persons.

The National Environmental Policy Act requires all Federal agencies to prepare environmental impact statements on major Federal actions significantly affecting the quality of the environment. Since publication of this interim standard without substantive change is required by the legislation and is not committed to agency discretion, the Commission concludes that publication of the interim standard is not subject to the requirement of NEPA that an assessment of the environmental effects be made.

LABELING

Section 1209.9 of the interim standard contains the requirement of section 35(a)(3) of the act, that each manufacturer or private labeler of cellulose insulation include the following statement on any container of cellulose insulation manufactured after September 7, 1978: "Attention: This material meets the applicable minimum Federal flammability standard. This standard is based upon laboratory tests only, which do not represent actual conditions which may occur in the home."

The statement must appear prominently and conspicuously on the cellulose insulation container and must appear in conspicuous and legible type in contrast by typography, layout, and color with other printed matter on the container. CPSC regulations at 16 CFR 1500.121 provide type size, placement, and other requirements for cautionary labeling under the Federal Hazardous Substances Act (FHSA) (15 U.S.C. 1261). The Commission suggests that the FHSA regulations at 16 CFR 1500.121 be used as guidelines as to whether labeling required in this interim standard is prominent, conspicuous, and legible. (See also the legislative history of the act H.R. Rep. No. 95-1322, 95th Cong., 2d sess. 9 (1978).) Manufacturers or private labelers who need additional guidance or advice concerning their labels should contact the Commission's Directorate for Compliance and Enforcement, Division of Regulatory Management, 301-492-6400.

Manufacturers or private labelers may use a pressure-sensitive or glued-on label to meet this requirement provided the label is made and attached in such a manner that it will be legible for the anticipated amount of time between the manufacture of the product and its installation.

LABELING REGARDING INSTALLATION

Although the interim standard does not include labeling or instructions for the proper installation of cellulose insulation, the Commission staff is preparing a proposed rule under section 27(e) of the CPSA that would require manufacturers of cellulose insulation to provide purchasers with performance and technical data relating to the proper installation of cellulose insulation.

In the notice starting its standard development proceeding for cellulose insulation, the Commission recognized the importance of properly installing cellulose insulation (42 FR 10428, March 13, 1978). Laboratory tests have shown the possibility of fires related to smoldering ignition of the insulation installed over recessed light fixtures. In addition, reported incidents and the technical analysis of the CPSC staff indicated to the Commission that cellulose insulation can be ignited if the insulation comes into contact with electrical devices or heat sources such as recessed lighting fixtures, trouble lights, and furnace flues and chimneys. The Commission also recogized that the future demand for cellulose insulation may lead to the increasing frequency of improper installation of the insulation, by professionals or consumers, so that increasing amounts of insulation may be exposed to ignition from a recessed lighting fixture or other ignition source in the installation area.

In the conference report on Pub. L. 95-319, the conference committee stated their expectation that the Commission would issue a rule under section 27(e) that would require manufacturers to provide safety information, on installation, to consumers. (H.R. Rept. No. 95-1322, 95th Cong., 2d sess. 9-10 (1978).)

PREEMPTION

Section 26(a) of the CPSA provides that whenever a consumer product safety standard under the Act is in effect and applies to a risk of injury associated with a consumer product, no State or local government has the authority either to establish or to continue in effect any provision of a safety standard or regulation which prescribes any requirements as to the performance, composition, content, design, finish, construction, packaging, or labeling of such product which are designed to deal with the same risk of injury associated with such consumer product, unless such requirements are identical to the requirements of the Federal standard.

The Commission believes that the interim standard preempts all State and local requirements addressing the flame resistance and corrosion hazards associated with cellulose insulation. However, since the interim standard does not include any requirements addressing the installation of cellulose insulation, the Commission does not believe that the interim standard preempts any State or local government from establishing or continuing in effect requirements addressing the proper intallation of cellulose insulation. In the conference report, the conference committee stated that the interim standard would not preempt State or local installation standards for cellulose insulation (H.R. Rept. No. 95-1322, 95th Cong., 2d sess. 10 (1978)).

CERTIFICATION

Manufacturers of cellulose insulation will be required to comply with the certification provisions of section 14(a)(1) of the Act (15 U.S.C. 2063(a)(1)) on and after the effective date of the interim standard. Section 14(a)(1) requires manufacturers (and private labelers, if the product bears a label) to issue a certificate which states that the product conforms to all applicable consumer product safety standards and specifies any applicable standard. The certificate shall be based on a test of each product or upon a reasonable testing program and must state the name of the manufacturer or private labeler issuing the certificate and include the date and place of manufacture. Section 14(b) provides that, at the option of the person required to certify the product, testing may be conducted by an independent third party qualified to perform such tests or testing programs. Section 35(f)(1) of the Act authorizes the Commission to require that any person required to comply with the certification requirements of section 14 for cellulose insulation must provide for the performance of any test or testing program through the use of an independent third party qualified to perform such test or testing program.

In addition, sections 14 (b) and (c) of the Act allow, but do not require, the Commission to issue regulations which would (1) prescribe a reasonable testing program, (2) specify which manufacturer shall issue the certificate when a product has more than one "manufacturer," and (3) require labeling of products subject to the safety standard. Manufacturers of products subject to a consumer product safety standard are required to issue a certificate under section 14(a)(1) based on a test of each product or on a reasonable testing program even if the Commission has not issued a regulation under section 14 (b) and (c). Although specif-

ic certification and labeling requirments of the type authorized by section 14 (b) and (c) of the Consumer Product Safety Act are not included in the interim standard, such requirements may be developed in the future. Any rule on certification and labeling will be separately proposed for public comment in accordance with the requirements of the Administrative Procedure Act (5 U.S.C. 553).

STOCKPILING

Section 9(d)(2) of the Act (15 U.S.C. 2058(d)(2)) authorizes the Commission to issue a rule prohibiting manufacturers of consumer products from stockpiling these products in order to circumvent a consumer product safety standard. "Stockpiling" means manufacturing or importing a product between the date of issuance of a consumer product safety standard and its effective date at a rate which is significantly greater than the rate at which the product was produced or imported during a base period before the standard is issued. The legislative history of Pub. L. 95-319 indicates that the Commission has the authority to issue an antistockpiling rule for cellulose insulation subject to the interim standard (H.R. Rep. No. 95-1322, 95th Cong., 2d sess. 10 (1978)). The Commission has not included an antistockpiling rule in this interim standard since it does not believe that such a rule is necessary because of the short time between the issuance of the interim standard and its effective date. However, if the Commission determines that such a rule is necessary, the Commission may issue a rule at some later time before the interim standard becomes effective.

IV. Effective Date

As provided by section 35(a) of the Act, as amended by Pub. L. 95-319, the interim standard is effective on and after the last day of the 60-day period beginning on the effective date of section 35 of the Act. Since section 35(a) was effective July 11, 1978, the interim standard is effective on September 8, 1978. Cellulose insulation subject to this interim standard that is manufactured after September 7, 1978, must meet the requirements of the interim standard.

Conclusion

In accordance with the provisions of the "Emergency Interim Consumer Product Safety Standard Act of 1978," Pub. L. 95-319, the Commission issues the interim standard for cellulose insulation as set forth below.

Therefore, pursuant to provisions of the Consumer Product Safety Act as amended (sec. 35(a), Pub. L. 95-319, 92 Stat. 386, 15 U.S.C. 2082) a new part 1209 is added to title 16, chapter II, subchapter B, as follows:

Sec.
1209.1 Scope and application.
1209.2 Definitions.
1209.3 General requirements.
1209.4 Test equipment and procedures for flame resistance.
1209.5 Test procedures for flame resistance permanency.
1209.6 Test procedures for corrosiveness.
1209.7 Test procedures for density.
1209.8 Test procedures for determining the moisture content of wood.
1209.9 Labeling requirements.
1209.10 Certification and enforcement.
1209.11 Effective date.

AUTHORITY: Sec. 35(a), Pub. L. 95-319, 92 Stat. 386; (15 U.S.C. 2082).

§ 1209.1 Scope and application.

(a) *Scope.* This part 1209, an interim consumer product safety standard, prescribes flame resistance and corrosion requirements for cellulose insulation that is a consumer product. These requirements are intended to reduce or eliminate an unreasonable risk of injury to consumers from flammable and corrosive cellulose insulation. the requirements are the flame resistance and corrosiveness requirements of General Services Administration specifications HH-I-515C and include provisions of the following standards published by the American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, Pa. 19103: ASTM C 739-77, "Standard Specification for Cellulosic Fiber (Wood-Base) Loose Fill Thermal Insulation"; ASTM E 84-77a, "Standard Test Method for Surface Burning Characteristics of Building Materials"; ASTM C 519-65, "Standard Test Method for Density of Fibrous Loose Fill Building Insulation"; and ASTM D 2016-74, "Standard Test Method for Moisture Content of Wood."

(b) *Application.* This part 1209 shall apply to cellulose insulation that is a consumer product. That is, cellulose insulation produced or distributed for sale to or for the personal use, consumption, or enjoyment of consumers in or around a permanent or temporary household or residence, a school, in recreation, or otherwise. The interim standard applies to cellulose insulation that is produced or distributed for sale to consumers for their direct installation or use, as well as cellulose insulation that is produced or distributed for installation by professionals. This part 1209 applies only to cellulose insulation manufactured after September 7, 1978.

§ 1209.2 Definitions.

As used in this part 1209:

(a) "Cellulose insulation" means cellulosic fiber, loose fill, thermal insulation that is suitable for blowing or pouring applications. The definition includes insulation installed using the "wet process" method of installation. The "wet process" insulation is blown into an area with a spray or mist of water applied at the nozzle during installation.

(b) Definitions given in section 3 of the Consumer Product Safety Act are applicable to this part 1209.

§ 1209.3 General requirements.

(a) All cellulose insulation to which this interim standard applies, as described in § 1209.1, shall have a flame spread rating not greater than 25 when tested in accordance with the test procedures described at § 1209.4.

(b) All cellulose insulation to which this interim standard applies, as described in § 1209.1, shall pass the flame resistance permanency test at § 1209.5.

(c) All cellulose insulation to which this interim standard applies, as described in § 1209.1, shall be noncorrosive when tested in accordance with the test procedures at § 1209.6.

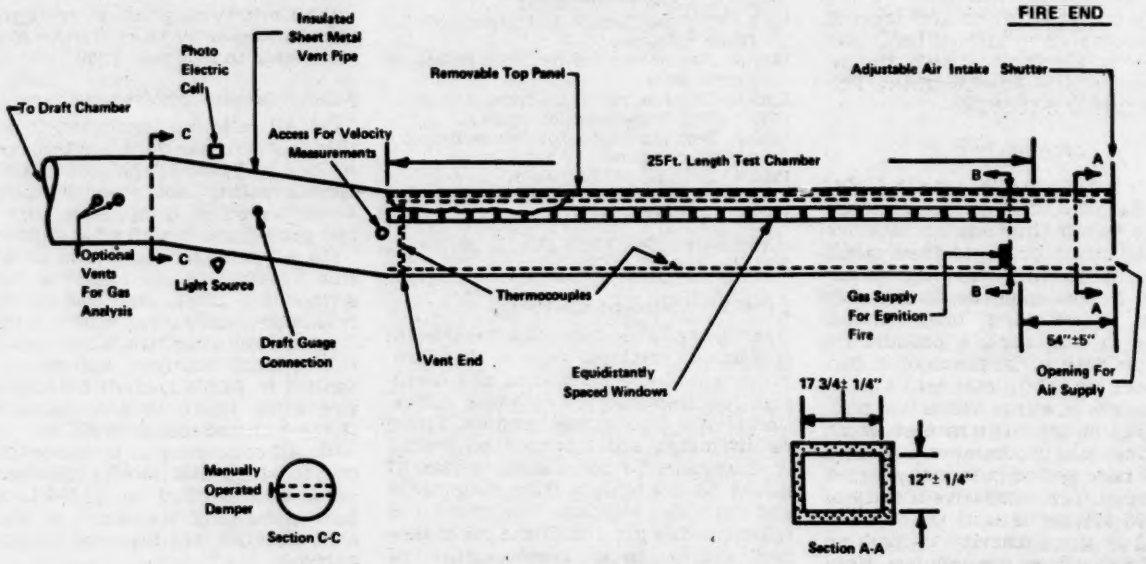
(d) All containers of cellulose insulation to which this interim standard applies, as described in § 1209.1, shall have a labeling statement in accordance with the labeling requirements at § 1209.9.

§ 1209.4 Test equipment and procedures for flame resistance.

(a) *Fire test chamber.*—(1) *Duct of chamber.* The fire test chamber, figs. 1 and 2, shall consist of a horizontal duct having an inside width of 17¾±¼ in. (451±6.3 mm) measured at the ledge location along the sidewalls and 17⅝±⅜ in. (448±10 mm) at all other points; a depth of 12±½ in. (305±13 mm) measured from the bottom of the test chamber to the ledge of the inner walls on which the specimen is supported (including the ⅛±1/16 in. (3.2 mm ±1.59 mm) thickness of asbestos fabric gasketing tape); and a length of 25 ft ±3 in. (7.62 mm ±76.2 mm). The sides and base of the duct shall be lined with an insulating masonry material as illustrated in fig. 2, consisting of A. P. Green, G-26 refractory firebrick or equivalent. (This method is based on the use of G-26 firebrick manufactured by A. P. Green Refractories, Green Boulevard, Mexico, Mo. 65265.) One side of the chamber shall be provided with double observation heat-resistant windows with the inside pane flush mounted (see fig. 2). (Heat-resistant glass, Vycor, 100 percent silica glass, nominal ¼ in. thick, has been found suitable for the interior pane; Pyrex glass, nominal ¼ in. thick, has been found suitable for the exterior pane.) Exposed inside glass shall be 2¾±⅜ in. by 11 plus 1, minus 2 in. (70±10 mm by 279, plus 25, minus 50 mm). The centerline of the exposed area of the inside glass shall be in the upper half of the furnace wall, with the upper edge not less than 2.5 in. (63

mm) below the furnace ledge. The window shall be located such that not less than 12 in. (305 mm) of the specimen width can be observed. Multiple windows shall be located along the tunnel so that the entire length of the test sample may be observed from outside the fire chamber. The windows shall be pressure tight as described by § 1209.4(c)(2).

FIG.1 – TEST FURNACE SHOWING SOME CRITICAL DIMENSIONS



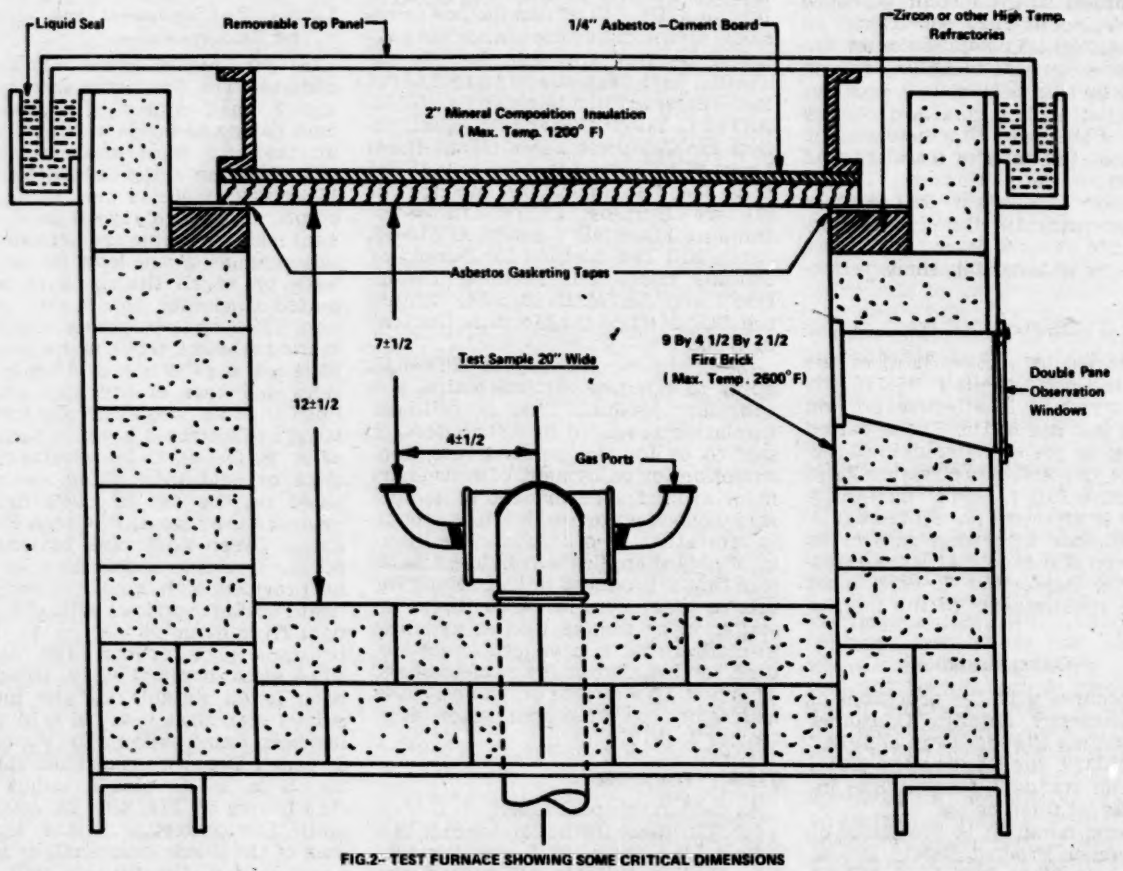

Liquid Seal
Removeable Top Panel
1/4" Asbestos –Cement Board
Zircon or other High Temp. Refractories
2" Mineral Composition Insulation (Max. Temp. 1200° F)
Asbestos Gasketing Tapes
7±1/2
Test Sample 20" Wide
9 By 4 1/2 By 2 1/2 Fire Brick (Max. Temp. 2600° F)
Double Pane Observation Windows
12±1/2
4±1/2
Gas Ports

FIG.2– TEST FURNACE SHOWING SOME CRITICAL DIMENSIONS
(Section B-B NOT A Construction Drawing)

(2) *Ledges in chamber.* The ledges shall be fabricated of structural materials capable of withstanding the abuse of continuous testing, level with respect to the length and width of the chamber and each other, and maintained in a state of repair commensurate with the frequency, volume, and severity of testing occurring at any time. (High temperature furnace refractory zircon has been found suitable for this purpose.)

(3) *Air turbulence.* To provide air turbulence for proper combustion, turbulence baffling shall be provided by positioning six A. P. Green, G-26 refractory firebricks or equivalent (long dimension vertical, 4½ in. (114 mm) dimension along the wall) along the sidewalls of the chamber at distances of 7, 12, and 20±½ ft (2.1, 3.7, and 6.1±0.2 m) on the window side and 4½, 9½, and 16±½ ft (1.3, 2.9, and 4.9±0.2 m) on the opposite side.

(4) *Top of chamber.* The top shall consist of a removable noncombustible (metal and mineral composite) structure, insulated with nominal 3±1 in. (76.2 mm ±25.4 mm) thick mineral compostion material as shown in fig. 2 and of a size necessary to cover completely the fire test chamber and the test samples. The lid shall be maintained in an unwarped and flat condition. The mineral composition material shall have physical characteristics comparable to the following:

Maximum effective temperature: 1200° F (649° C).
Bulk density: 12.5±1.5 lb/ft³ (196.1±24.0 kg/m³.
Thermal conductivity at 300 to 700° F (149 to 371° C): 0.45 to 0.65 Btu·ft/h·ft²·°F (0.78 to 1.12 W/m·K).

The entire lid assembly shall be protected with flat sections of high-density (nominal 110 lb/ft³ or 1761 kg-m³)) ¼ in. (6.3 mm) asbestos-cement board, maintained in an unwarped and uncracked condition through continued replacement. This protective board may or may not be secured to the furnace lid. When in place the top shall be comletely sealed against the leakage of air into the fire test chamber during the test.

(5) *Gas burners and "fire end" of chamber.* One end of the test chamber, designated as the "fire end," shall be provided with two gas burners delivering flames upward against the surface of the test sample. The burners shall be spaced 12±1 in. (305 mm ± 25.4 mm) from the fire end of the test chamber, and 7½±½ in. (190±13 mm) below the under surface of the test sample. The air intake shutter shall be located 54±5 in. (1372±127 mm) upstream of the burner, as measured from the burner centerline to the outside surface of the shutter. Gas to the burners shall be provided through a single inlet pipe, distributed to each port burner through a tee-section. The burner outlet shall be a nominal ¾ in. elbow. The plane of the port shall be parallel to the furnace floor, such that the gas is directed upward toward the specimen. Each port shall be positioned with its centerline 4±½ in. (102±13 mm) on each side of the centerline of the furnace so that the flame is evenly distributed over the width of the exposed specimen surface (see fig. 2). The controls used to assure constant flow of gas to the burners during periods of use shall consist of a pressure regulator, a gas meter calibrated to read in increments of not more than 0.1 ft³ (2.8 litres), a manometer to indicate gas pressure in inches of water, a quick-acting gas shut-off valve, a gas metering valve, and an orifice plate in combination with a water manometer to assist in maintaining uniform gas flow conditions. An air intake fitted with a vertically sliding shutter extending the entire width of the test chamber shall be provided at the fire end. The shutter shall be positioned so as to provide an air inlet port 3±1/16 in. (76±2 mm) high measured from the floor level of the test chamber at the air intake point. (A draft gage tap of the inlet section to indicate static pressure may be inserted through the top at the mid width of the tunnel 1±.5 in. (2.5±1.3 cm) below the ceiling, 15±5 in. (38.1±12.7 cm) downstream from the inlet shutter. If the draft gage is installed in this location it is not necessary to have the draft gage installed in the "vent end" of the chamber described in § 1209.4(a)(6) of this section.)

(6) *"Vent end" of chamber.* The other end of the test chamber, designated as the "vent end," shall be fitted with a gradual rectangular-to-round transition piece, not less than 20 in. (508 mm) in length, with a cross-sectional area of not less than 200 in.² (1290 cm²) at any point. The transition piece shall in turn be fitted to a 16-in. ±¼ in. (406-mm±6.35 mm) diameter flue pipe. The movement of air shall be by an induced draft system having a total draft capacity of at leat 0.15-in. (3.8-mm) water column with the sample in place, the shutter at the fire end open the normal 3±1/16 in. (76±2 mm), and the damper in the wide open position. A draft gage to indicate static pressure shall be joined with the vent pipe using a surface mount connection upstream of the damper and photoelectric cell opening and at a point of minimum air turbulence, at least 16 diameters (approximately 21 ft (6.4 m)) from the vent end of the chamber.

(7) *Light source.* A light source shall be mounted on a horizontal section of the 16-in. (406-mm) diameter vent pipe at a point where it will be preceded by a straight run of pipe (at least 12 diameters or 16 ft (4.88 m) and not more than 30 diameters (40 ft (12.19 m)) from the vent end of the chamber, and with the light beam directed upward along the vertical axis of the vent pipe. (A Weston Instruments No. 856BB Photronic cell and 12-V sealed beam, clear lens, auto spot lamp, with an overall light to cell path length of 36±4 in. (914±102 mm) has been found suitable for this purpose.) The vent pipe shall be insulated with at least 2 in. (51 mm) of high-temperature mineral composition material, from the vent end of the chamber to the photometer location. A photoelectric cell of which the output is directly proportional to the amount of light received shall be mounted over the light source and connected to a recording device having a minimum operating chart width of 5 in. (127 mm) with an accuracy within ±1 percent of full scale, for indicating changes in the attenuation of incident light by the passing smoke, particulate, and other effluent. The distance between the light source lens and the photocell lens shall be 36±4 in. (914±102 mm). The cylindrical light beam shall pass through 3-in. (76-mm) diameter openings at the top and bottom of the 16-in. diameter duct, with the resultant light beam centered on the photocell. (The apparatus described in this section is used for determining smoke developed rating, a measurement that is not required by this interim standard. This equipment is normally used in conjunction with the Steiner Tunnel test apparatus. Although the apparatus described in this section is not used as part of the requirements of the interim standard, the apparatus is included since the removal of the equipment could conceivably cause variability of test results.)

(8) *Damper.* An automatically controlled damper to regulate the draft pressure shall be installed in the vent pipe down-stream of the smoke-indicating attachment. The damper shall be provided with a manual override.

(9) *Other draft regulation devices.* Other manual or automatic draft regulation devices or both may be incorporated to maintain fan characterization and air-flow control throughout test periods.

(10) *Exposed thermocouple.* A No. 18 AWG. (1.02 mm) thermocouple, with ⅜±⅛ in. (9.5±3.2 mm) of the junction exposed in the air, shall be inserted through the floor of the test chamber so that the tip is 1±1/32 in. (25.4±0.8 mm) below the top surface of the asbestos gasketing tape and 23 ft ±½ in. (7.0 m ±13 mm) from the centerline of the burner ports at the center of its width.

(11) *Embedded thermocouple.* A No. 18 AWG. (1.02 mm) thermocouple embedded ⅛ in. minus 0 in. plus 1/16 in.

(3.2 mm minus 0 plus 1.59 mm) below the floor surface of the test chamber shall be mounted in refractory or portland cement, carefully dried to avoid cracking, at distances of 13 ft ±½ in. (3.96 m ±13 mm) and 23¼ ft ±½ in. (7.09 m ±13 mm) from the centerline of the burner ports.

(12) *Maintaining atmospheric pressure.* The room in which the test chamber is located shall have provision for a free inflow of air during the test to maintain the room at atmospheric pressure during the entire test run.

(b) *Test specimens.* (1) *Description.* The test specimen shall be at least 2 in. (51 mm) wider (nominally 20¼±¾ in. (514±19 mm)) than the interior width of the tunnel and total 24 ft ±½ in. (7.32 m ±13 mm) in length. The specimen may consist of a continuous, unbroken length, or of sections joined end to end. A 14±⅛ in. (356±3 mm) length of uncoated 16-gage (0.053 to 0.060 in.) steel sheet shall be placed on specimen mounting ledge in front of and under the specimen in the upstream end of the tunnel. Specimens shall be truly representative of the materials for which test results are desired. Properties adequate for identification of the materials or ingredients, or both, of which the test specimen is made shall be recorded.

(2) *Conditioning.* The test specimen shall be conditioned to a constant weight at a temperature of 73.4±5° F (23±2.8° C) and at a relative humidity of 50±5 percent.

(c) *Calibration of test equipment.* (1) *Placement of asbestos-cement board.* Place a ¼±1/32 in. (6.3 mm ±0.8 mm) asbestos-cement board on the ledge of the furnace chamber, then place the removable lid of the test chamber in position. The asbestos-cement board shall be nominal ¼ in. (6.3 mm) thick, high density (110±5 lb/ft³ (1,762±80 kg/m³)) and uncoated. (In handling the asbestos-cement board, appropriate precautions should be taken to avoid unnecessary inhalation of dust from the asbestos-cement board.)

(2) *Controlling air leakage.* With the ¼ in. (6.3 mm) asbestos-cement board in position on top of the ledge of the furnace chamber and with the removable lid in place, establish a draft to produce a 0.15-in. (3.8 mm) water-column reading on the draft manometer, with the fire-end shutter open 3±1/16 in. (76±1.6 mm), by manually setting the damper as a characterization of fan performance. Then close and seal the fire-end shutter, without changing the damper position. The manometer reading shall increase to at least 0.375 in. (9.53 mm), indicating that no excessive air leakage exists.

In addition, conduct a supplemental leakage test periodically with the fire shutter and exhaust duct beyond the differential manometer tube sealed, by placing a smoke bomb in the chamber. Ignite the bomb and pressurize the chamber to 0.375±0.125 in. (9.53±3.18 mm) water column. Seal all points of leakage observed in the form of escaping smoke particles.

(3) *Air velocity.* Establish a draft reading within the range 0.055 to 0.085 in. (1.40 to 2.16 mm) water column. (The draft reading shall be within the range .085 to .100 in. (2.16 to 2.54 mm) water column if the draft gage tap is inserted through the top at the "fire end" of the tunnel, as allowed by § 1209.4(a)(5).) The required draft gage reading will be maintained throughout the test by the automatically controlled damper. Record the air velocity at seven points, 23 ft ±1 in. (7 m ±25.4 mm) from the centerline of the burner ports, 6±¼ in. (168±7 mm) below the plane of the specimen mounting ledge. Determine these seven points by dividing the width of the tunnel into seven equal sections and recording the velocity at the geometrical center of each section. During the measurement of velocity, remove the turbulence bricks (see § 1209.4(a)(3)) and exposed 23 ft thermocouple and place 24 in. ±1 in. (670-mm ±25.4 mm) long straightening vanes between 16 and 18 ft (4.88 and 5.49 m) from the burner. The straightening vanes shall divide the furnace cross section into nine uniform sections. Determine the velocity with furnace air temperature at 73.4±5° F (23±2.8° C), using a velocity transducer. (A Thermo Systems, Inc. Model 1610 velocity transducer (thermal anemometer) using a readout device accurate to 0.001-V, has been found suitable for the purpose.) The velocity, determined as the arithmetic average of the seven readings, shall be 240±5 ft (73.2±1.5 m) /min.

(4) *Temperature and relative humidity of air supply.* Maintain the air supply at a temperature of 73.4±5° F (23±2.8° C), and a relative humidity of 50±5 percent.

(5) *Gas supply.* Supply the fire test chamber with natural (city) or methane (bottled) gas fuel of uniform quality with a heating value of nominally 1,000 Btu/ft³ (37.3 MJ/m³). Adjust the gas supply initially at approximately 5,000 Btu (5.3 MJ)/min. Record the gas pressure, the pressure differential across the orifice plate, and the volume of gas used in each test. Unless otherwise corrected for, when bottle methane is employed, insert a length of coiled copper tubing into the gas line between the supply and metering connection to compensate for possible errors in the flow indicated due to reductions in gas temperature associated with the pressure drop and expansion across the regulator. With the draft and gas supply adjusted as indicated in 1209.4(c) (3) and (4), the test flame shall extend downstream to a distance of 4½ ft ±6 in. (1.37 m ±152.5 mm) over the specimen surface, with negligible upstream coverage.

(6) *Preheating of test chamber.* Preheat the test chamber with the ¼ in. (6.3 mm) asbestos-cement board and the removable lid in place and with the fuel supply adjusted to the required flow. Continue the preheating until the temperature indicated by the floor thermocouple at 23¼ ft (7.09 m) reaches 150±5° F (66±2.8° C). During the preheat test, record the temperatures indicated by the thermocouple at the vent end of the test chamber at intervals not longer than 15 s and compare these readings to the preheat temperature shown in the time-temperature curve in figure 3. This preheating is for the purpose of establishing the conditions that will exist following successive tests and for indicating the control of the heat input into the test chamber. If appreciable variation from the temperatures shown in the representative preheat curve is observed, suitable adjustments in the fuel supply may be necessary based on red oak calibration tests.

(7) *Cooling.* Allow the furnace to cool after each test. When the floor thermocouple at 13 ft (3.96 m) shows a temperature of 105±5° F (40.5±2.8° C), place the next specimen in position for test.

(8) *Tests with red oak flooring.* With the test equipment adjusted and conditioned as described in §§ 1209.4(c) (3), (4), and (6), make a test or series of tests, using nominal 25/32 in. (19.8 mm) select-grade red oak flooring as a sample, conditioned to 6 to 8 percent moisture content as determined by the 221° F (105° C) oven/dry method described at § 1209.8. Make observations at distance intervals not in excess of 2 ft ±6 in. (0.6 m ±152.4 mm) and time intervals not in excess of 30 s, and record the time when the flame reaches the end of the specimen, that is, 19½ ft (5.94 m) from the end of the ignition fire. The end of the ignition fire shall be considered as being 4½ ft (1.37 m) from the burners. The flame shall reach the end point in 5½ min ±15 s. Automatically record the temperatures measured by the thermocouple near the vent end at least every 15 s.

The flame may be judged to have reached the end point when the vent-end thermocouple registers a temperature of 980° F (527° C).

(9) *Steel screen correction factor.* Prior to performing the surface burning test, the operator shall develop a correction factor for the select grade red oak flooring with the steel screening, as described in § 1209.4(d)(1), in place. The placement and fastening of the screening to the select grade red

oak flooring shall be as shown in figure 4.

(10) *Recording flame spread distance.* Plot the flame spread distance and temperature readings separately on suitable coordinate paper. Figures 5 and 6 are representative curves for red oak flame spread distance and time temperature development. Flame spread distance shall be determined as the observed distance minus 4½ ft (1.37 m).

(11) *Tests with asbestos-cement board.* Following the calibration tests for red oak, conduct a similar test or tests on samples of ¼ in. (6.3 mm) asbestos-cement board. These results shall be considered as representing a classification of 0. Plot the temperature readings separately on suitable coordinate paper. Figure 7 is a representative curve for time temperature development for asbestos-cement board. (In handling the asbestos-cement board, appropriate precautions should be taken to avoid unnecessary inhalation of dust from the asbestos-cement board.)

(d) *Procedures.* (1) *Placement of specimen.* Loose fill insulation shall be placed on steel screening with wires nominally 0.01±0.001 in. (0.254 mm ±0.0254 mm) in diameter with approximate 3/64 in. (1.2 mm) openings supported on a test frame 20±¼ in. (508 mm ±6.35 mm) wide by 2±1/16 in. (51 mm ±1.59 mm) deep, made from nominally 2 by 3 by 3/16 in. (51 by 76 by 5 mm) steel angles. Three frames are required. See figure 8. The insulation shall be packed to the density specified by the manufacturer. If the manufacturer fails to specify the density of the insulation, the Commission shall determine the density of the insulation by using the blown in and/or poured density test method at § 1209.7. The Commission shall then pack the insulation to the density obtained by using the test method at § 1209.7. With the furnace draft operating, place the test specimen on the test chamber ledges which have been completely covered with nominal ⅛ in. (3.2 mm) thick by 1½ in. (38 mm) wide woven asbestos tape. Place the specimen as quickly as is practical. Place the removable top in position over the specimen.

(2) *Furnace draft.* The completely mounted specimen shall remain in position in the chamber with the furnace draft operating for 120±15 s prior to the application of the test flame.

(3) *Flame front distance.* Ignite the burner gas. Observe and record the distance and time of maximum flame front travel with the room darkened. Continue the test for a 10-min period ±2 sec. The test may be terminated prior to 10 min if the specimen is completely consumed in the fire area and no further progressive burning is evident.

(4) *Gas.* Record the gas pressure, the pressure differential across the orifice plate, and the volume of gas used in each test.

(5) *Conclusion of test.* When the test is ended, shut off the gas supply, observe smoldering and other conditions within the test duct, and remove the specimen for further examination.

(6) *Recording flame spread.* Plot the flame spread distance and temperature readings separately on the same type of coordinate paper as used in § 1209.4(c)(10) for use in determining the flame-spread classification as outlined in § 1209.4(e). The flame spread observations must be recorded at distance intervals not in excess of 2 ft (0.6 m) or time intervals not in excess of 30 s. In addition, the peak must be noted with the time of occurrence. Flame spread distance shall be determined as the observed distance minus 4½ ft (1.37 m).

(e) *Classification.* (1) *Method for determining flame spread classification (FSC).* (i) The total area (A_T) under the flame spread time-distance curve shall be determined by ignoring any flame front recession. For example, in figure 9 the flame spread 10 ft (3.05 m) in 2½ min and then recedes. The area is calculated as if the flame had spread to 10 ft in 2½ min and then remained at 10 ft for the remainder of the test or until the flame front again passed 10 ft. This is shown by the dashed line in figure 9. The area (A_T) used for calculating the flame spread classification is the sum of areas A_1 and A_2 in figure 9.

(ii) If this total area (A_T) is less than or equal to 97.5 min. ft, the flame spread classification shall be 0.564 times the total area ($FSC=0.564\ A_T$).

(iii) If the total area (A_T) is greater than 97.5 min. ft, the flame spread classification shall be 5363, divided by the difference of 195 minus the total area (A_T). ($FSC=5363/(195-A_T)$.)

(iv) The correction factor described in section 1209.4(c)(9) shall be used in reporting the surface burning characteristics (flame spread classification) of cellulosic fiber loose-fill, thermal insulation conforming to this specification.

(f) *Report.* The report shall include the following:

(1) Description of the material being tested,

(2) Test results as calculated in § 1209.4(e),

(3) Details of the method used in placing the specimen in the test chamber, and

(4) Observations of the burning characteristics of the specimen during test exposure, such as sagging and fallout.

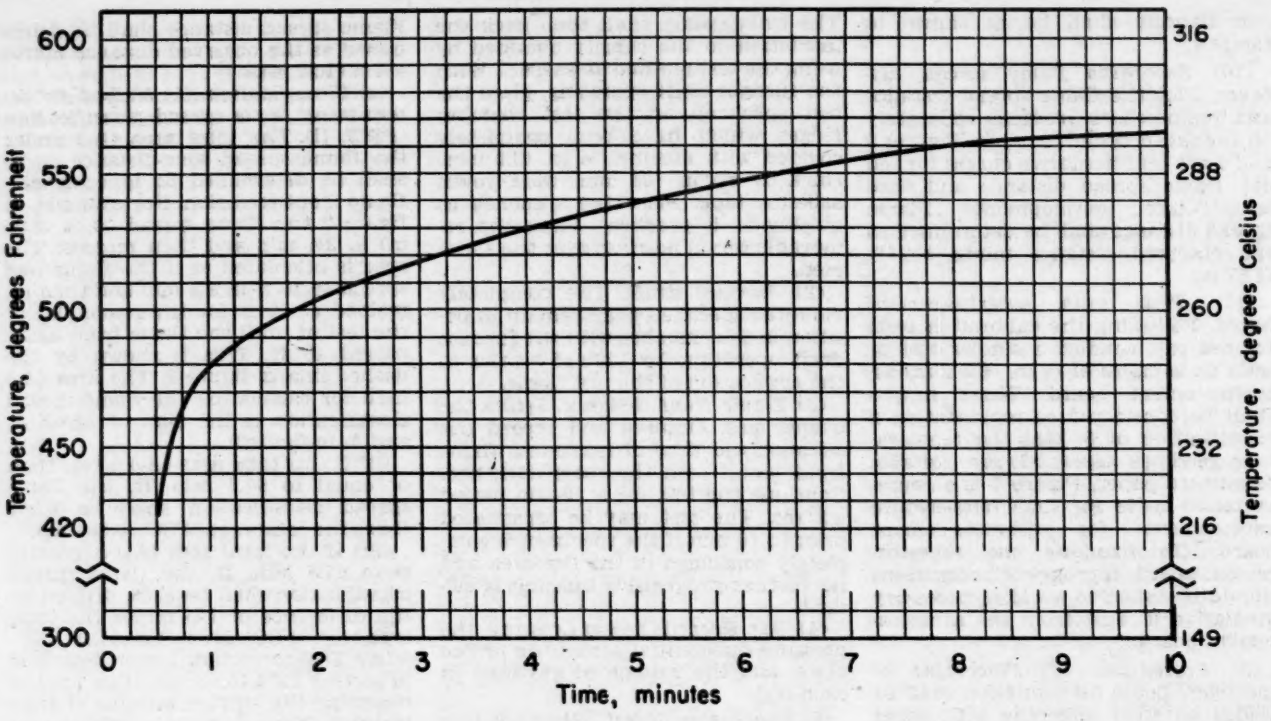


FIG.3 — TIME—TEMPERATURE CURVE FOR PREHEAT TEMPERATURE

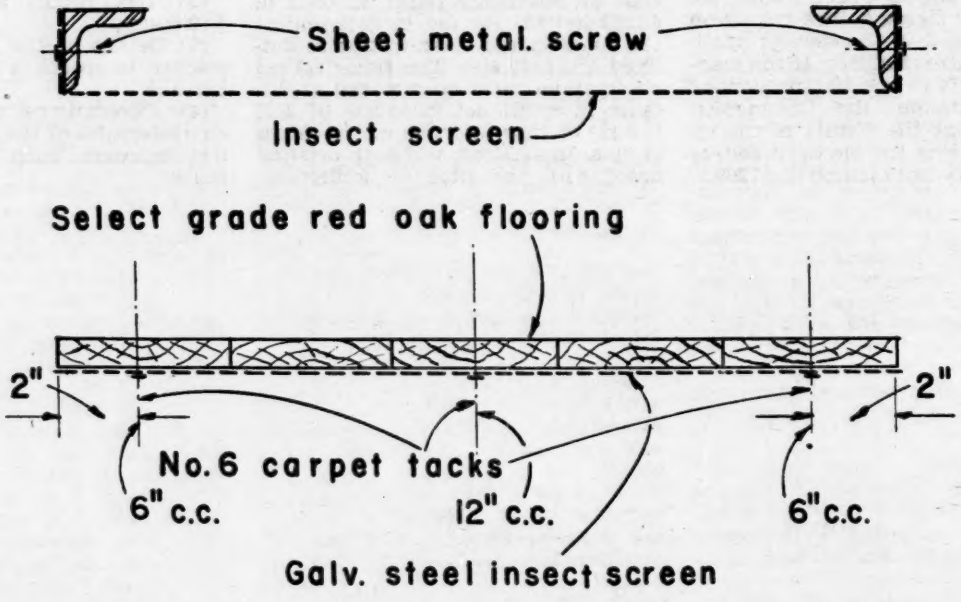


FIG.4 — PLACEMENT AND FASTENING OF SCREENING TO SELECT GRADE RED OAK FLOORING

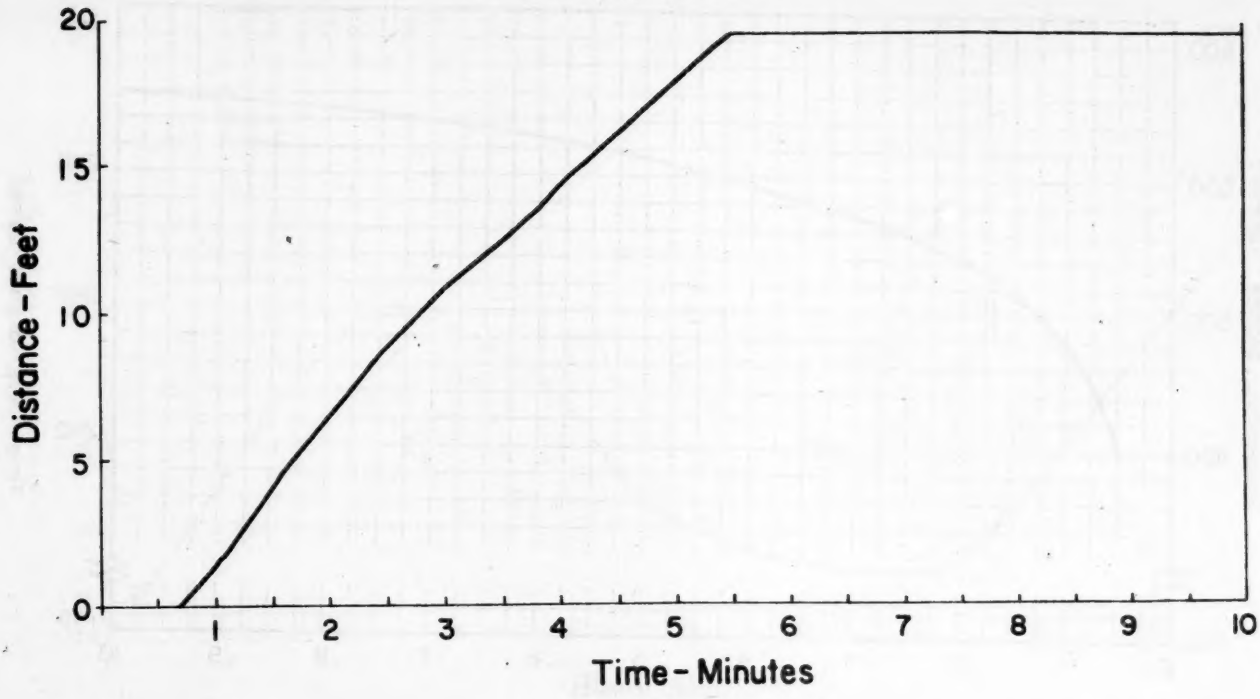


FIG.5 — TIME—DISTANCE CURVE FOR FLAME SPREAD OF RED OAK

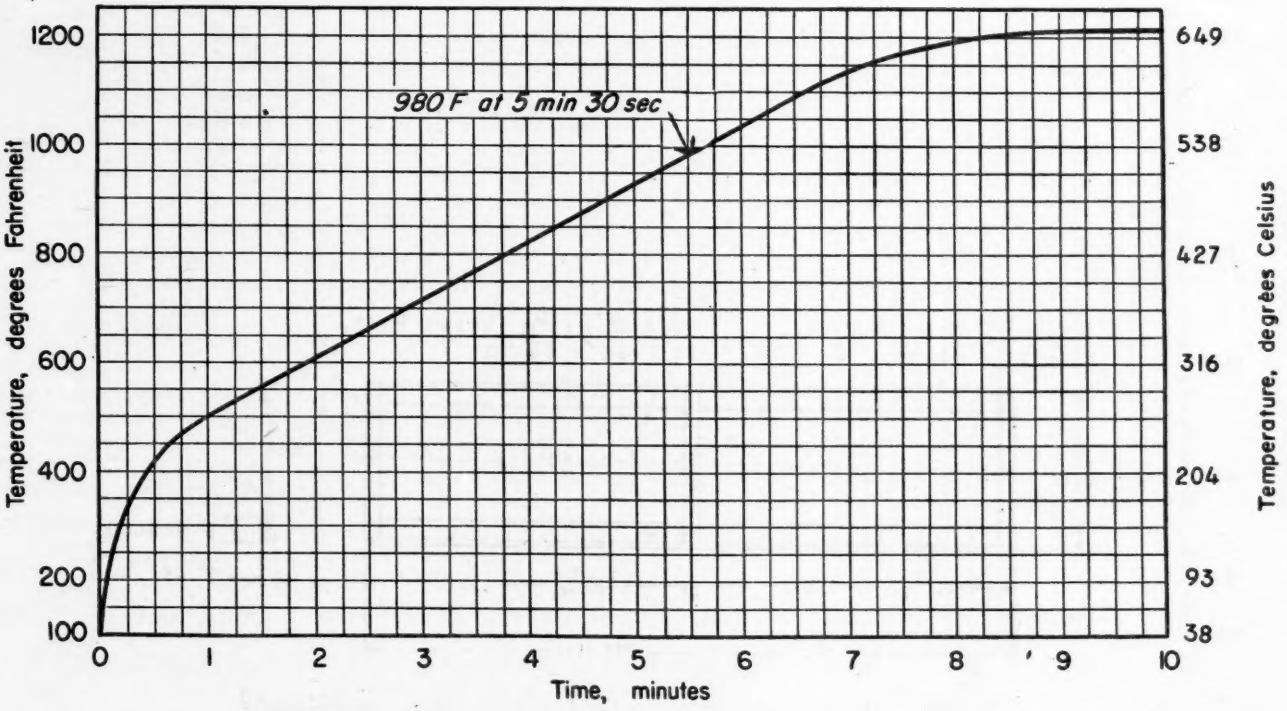


FIG.6 — TIME—TEMPERATURE CURVE FOR FUEL CONTRIBUTION OF RED OAK

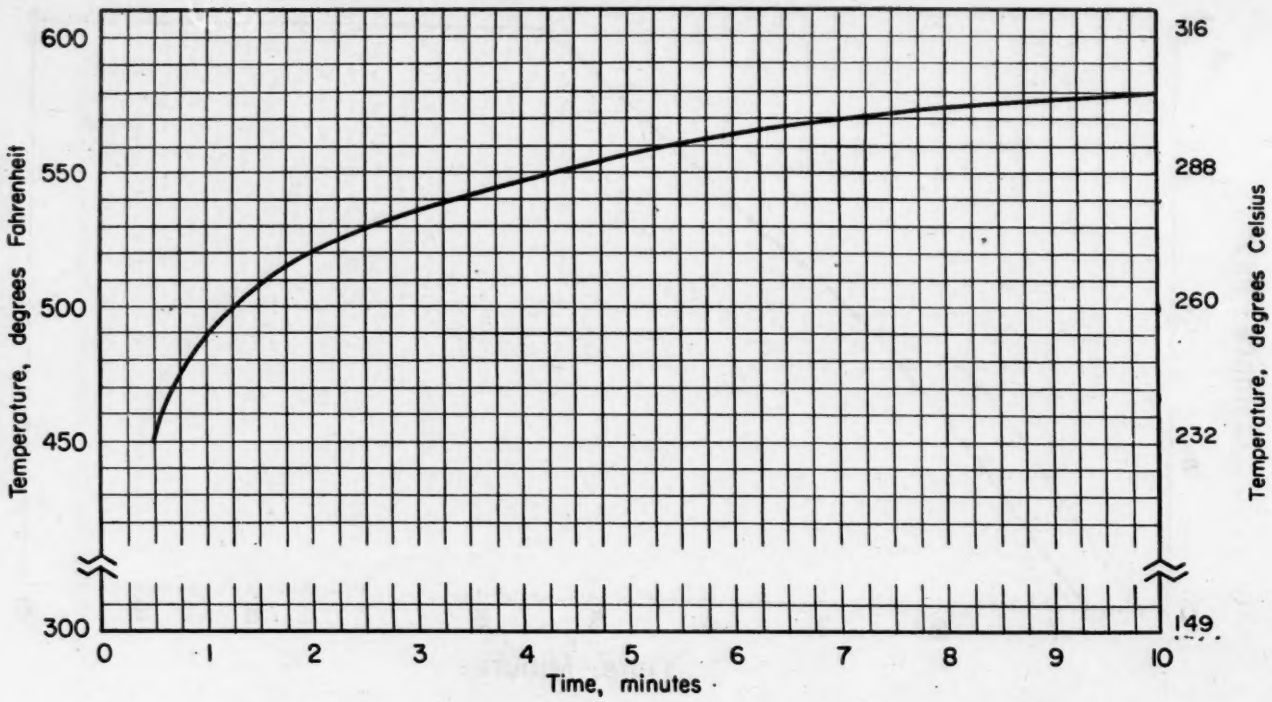


FIG.7 — TIME—TEMPERATURE CURVE FOR CONTRIBUTION OF ASBESTOS—CEMENT BOARD

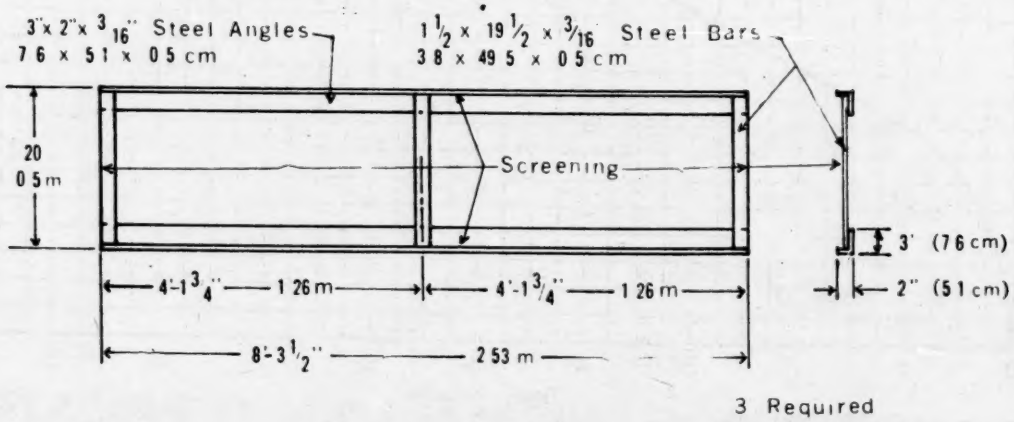


FIG.8

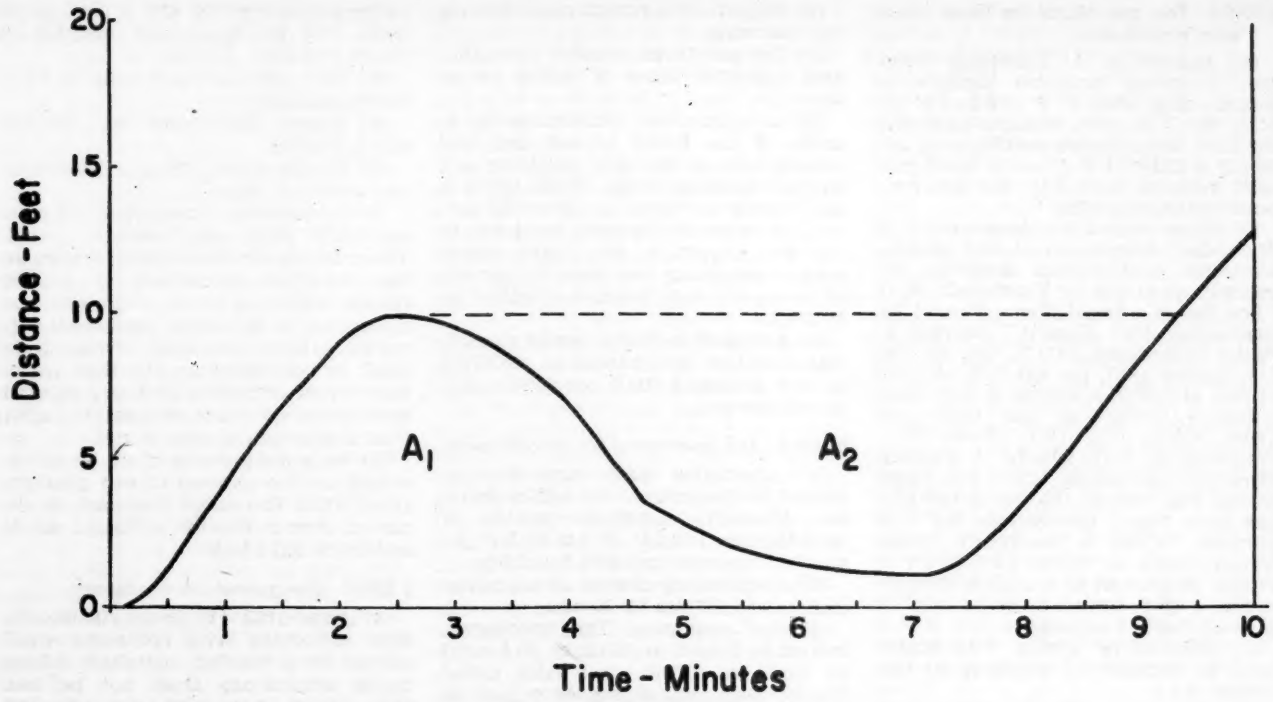


FIG.9 — EXAMPLE OF TIME—DISTANCE CURVE WITH FLAME FRONT RECESSION

§ 1209.5 Test procedures for flame resistance permanency.

(a) *Apparatus.* (1) *Humidity chamber.* Humidity chamber capable of maintaining 180±3° F (82.2±1.7° C) with 96±3 percent relative humidity for high-temperature conditioning and 80±3° F (26.7±1.7° C) with 50±3 percent relative humidity for low-temperature conditioning.

(2) *Flame spread test apparatus, 2 ft.* A detailed description of this apparatus with construction drawings appears in an article by Vandersall, H. L. "The Use of a Small Flame Tunnel for Evaluating Fire Hazard," *Journal of Paint Technology,* JPTY, vol. 39, No. 511, August 1967, pp. 494–500. (A copy of this article is available at the Commission's Office of the Secretary, Third Floor, 1111 18th Street NW., Washington, D.C. 20207.) A Custom Scientific Instrument (CSI) 2-ft flame spread test tunnel (Model C-196 CL) has been found satisfactory for this purpose. When a material's flame spread rating as found in § 1209.4 is within 20 percent of a higher classification, a 25-ft tunnel must be used in place of the 2-ft apparatus.

(3) *Laboratory scales.* The scales must be capable of weighing to the nearest 0.1 g.

(b) *Procedure.* (1) *Specimens.* (i) Submit a representative sample of the insulation for test, portions of which shall be used for each test.

(ii) Prepare two specimens of at least 100 g each and not less than 2 in. (51 mm) thick.

(iii) Condition specimens for 24 hr at 80±3° F (26.7±1.7° C) and 50±3 percent relative humidity.

(iv) Conduct a flame spread and fuel contribution test on one specimen in the 2-ft apparatus and record the results.

The screening used to support the specimen properly shall be in accordance with § 1209.4(d)(1). The 2-ft apparatus shall be calibrated and operated as outlined in H. L. Vandersall's article.[1]

(v) Age the second specimen in the humidity chamber as follows:

24 hr at 180±3° F (82.2±1.7° C) and 96±3 percent relative humidity.
24 hr at 80±3° F (26.7±1.7° C) and 50±3 percent relative humidity.
24 hr at 180±3° F (82.2±1.7° C) and 96±3 percent relative humidity.
24 hr at 80±3° F (26.7±1.7° C) and 50±3 percent relative humidity.

(vi) Conduct a flame spread and fuel contribution test on the aged specimen.

[1]This article is incorporated by reference. The incorporation by reference provision was approved by the Director, Office of the Federal Register, on July 31, 1978. A copy of this article is available at the Commission's Office of the Secretary, Third Floor, 1111 18th Street NW., Washington, D.C. 20207 and is on file at the Office of the Federal Register.

(c) *Report.* The report shall include the following:

(1) Temperatures, relative humidity, and exposure times of aging procedure.

(2) A numerical determination is made of the flame spread and fuel contribution of the aged specimen and the non-aged specimen. When there is an increase in flame spread of 20 percent or more of the aged specimen in the 2-ft apparatus, the flame resistance permanency test must be repeated using the test method specified at § 1209.4.

(3) A change in flame spread classification in the 25-ft tunnel as modified in this standard shall constitute failure of the test.

§ 1209.6 Test procedures for corrosiveness.

(a) *Apparatus and materials required for the test.* (1) *Humidity chamber.* Humidity chamber capable of maintaining 120±3° F (48.9±1.7° C) and 96±3 percent relative humidity.

(2) *Evaporating dishes.* Evaporating dishes, two, 90 mm by 50 mm.

(3) *Test specimens.* Test specimens, two each, 2 by 2 in. (50.8 by 50.8 mm) by 0.003 in. (0.762 mm) thick metal free of tears, punctures, or crimps as follows:

(i) 2024–T3 Bare Aluminum.

(ii) ASTM B 152, Type ETP, Cabra No. 110, soft copper.

(iii) Low carbon, commercial quality, cold rolled, shim steel.

(4) *Trichloroethylene or 1,1,1,-Trichloroethane.* Analytical reagent trichloroethylene or 1,1,1,-trichloroethane.

(b) *Specimen.* A representative sample of the insulation shall be submitted for test, portions of which shall be used for each test.

(c) *Test procedure.* (1) Wash the metal specimens with 1,1,1,-trichloroethane to remove any oil or grease. Dry at room temperature.

(2) Presaturate the insulation samples by mixing 20 g of insulation with 150 ml of distilled water at room temperature for each test specimen.

(3) Place a ½-in. (12.7 mm) thick layer of saturated insulation into an evaporating dish, tamp level, and place metal specimen on the insulation. Cover the metal specimen with the remaining insulation and tamp to assure good contact with the metal plate. Cover with nonmetallic screen to prevent spilling during test.

(4) Place the composite specimens and a control metal specimen into the humidity chamber, calibrated at 120° F (48.9° C) and 96±3 percent relative humidity, for 168 hr.

(5) Upon completion of the test, thoroughly wash the metal specimens under running water and lightly brush them to remove loose corrosion products. Remove the remaining corrosion products by immersing them in 10 parts distilled water and 1 part nitric acid, 15.9 N. Rinse the samples in water and dry.

(6) Make two duplicate tests for each determination.

(d) *Report.* The report shall include the following:

(1) Temperature, relative humidity, and exposure time.

(2) Comparison of corrosion between insulated panel and control panel. When minor surface etching occurs on the insulated aluminum or copper panels, extended 30-day tests shall be conducted to determine additional corrosion effect. Extended 30-day tests shall be conducted on the steel panel only when corrosion of the insulated steel panel compares unfavorably with that of the control steel panel.

(3) Noncorrosiveness shall be determined by the absence of any perforations when the metal specimen is observed over a chrome reflected 40–W appliance light bulb.

§ 1209.7 Test procedures for density.

(a) *Apparatus.* (1) *Loose fill insulation container.* The container shall consist of a wooden container whose inside dimensions shall not be less than 18×14×4 in. (457 by 355 by 102 mm). The container should be closed on the bottom of the large area side and open on the other side to permit filling.

(2) *Scales.* Scales with an accuracy of at least 0.5 percent of the sample weight.

(3) *Blowing machine.* A blowing machine with 150 ft (46 m) of 2½ in. (64 mm) diameter flexible corrugated standard blower hose. A blowing machine manufactured by the Universal Insulation Co., Van Wert, Ohio has been found satisfactory for this purpose.

(b) *Specimens.* Three bags or containers of the loose fill insulation shall be selected from the material to be tested.

(c) *Conditioning.* Condition samples for at least 24 hr at 50±2 percent relative humidity and 73±° F (23±1.1° C) and test under ambient conditions.

(d) *Specimen preparation.* (1) *Blown specimens.* (To be used when fibrous insulations are recommended by the manufacturer for installation by blowing.)

(i) The loose fill insulation container shall be located on a level floor in front of an operator directing the blowing hose.

(ii) The horizontal distance between the end of the flexible hose from which the insulation is blown and the container shall be between 7 and 8 ft (2.1 and 2.4 m).

(iii) The flexible hose shall be 2½ in. (64 mm) in diameter, held in a horizontal position, and approximately 3 ft

(0.9 m) above the surface upon which the container is resting.

(iv) Feed a package of insulation into the hopper of the blowing machine. Blowing time will vary, depending upon the size of the package containing the insulation.

(v) When the velocity of the insulation being blown is sufficient to fill the container, make the specimen.

(vi) Level off the top surfaces of the blown sample by hand. The nature of blown insulation is such that it cannot be screened as is done with sand; therefore, take care not to compact the insulation or leave large voids in the surface of the material.

(2) *Poured specimens.* In those instances where fibrous loose fill insulation is recommended only for pouring in place, open the package of insulation and pour directly into the loose fill insulation container and level off as described in § 1209.7(d)(1)(vi).

(e) *Procedure.* (1) After the container of loose fill insulation has been prepared, determine the insulation thickness. Use the volume determined using this average thickness along with the insulation weight to calculate the density, D.

(2) Using fresh material, repeat the test for a total of three times.

(3) Determine the tare weight of the insulation container by placing the empty container on the scales (§ 1209.7(a)(2)) and reading the weight. After the filling and screening operations, reweigh the insulation filled container. Calculate the insulation weight in pounds.

(f) *Calculations.* (1) Calculate the insulation weight, W_i, as follows:

$$W_i = W_F - W_T$$

where:

W_i = insulation weight, lb (kg),
W_F = weight of filled container, lb (kg), and
W_T = weight of empty container, lb (kg).

(2) Calculate the density from the average thickness as follows:

$$D = W_i / V$$

where:

D = density, lb/ft³ (kg/m³),
W_i = weight of insulation, lb (kg), and
V = Volume of container, ft³ (m³).

(g) *Report.* Report the density in pounds per cubic foot for each test, and the average of the three tests, along with the method of sample preparation that is, blown or poured.

§ 1209.8 Test procedures for determining the moisture content of wood.

(a) *Apparatus.*—(1) *Oven.* An oven that can be maintained at a temperature of 103±2° C (217.4±3.6° F) throughout the drying chamber for the time required to dry the specimen to constant weight. Ovens may require forced-air circulation to maintain uniform temperature. An accurate thermometer or pyrometer shall be used to check the temperature. For convenience, ovens will normally be thermostatically controlled. Ovens shall be vented to allow the evaporated moisture to escape.

(2) *Weighing device.* A scale or balance that will weigh a specimen within accuracy of ±0.2 percent. The accuracy and sensitivity of the weighing apparatus shall be checked at least every year against standard weights. Knife edges shall be kept clean to assure accuracy. A torsion balance, Harvard trip balance, triple beam balance, and automatic direct-reading balance are examples of suitable equipment.

(b) *Test specimens.* Specimens vary widely, depending on the type of material being analyzed and the anticipated use of the results. Specimens shall be selected that represent the lot. Unless otherwise specified, specimens shall be full cross sections no less than 25 mm (1 in.) along the grain, but longer as needed to provide a minimum volume of 33 cm³ (2 in.³). The section shall be cut with a sharp saw. All loosely attached slivers shall be removed from the section before it is weighed. Specimens from large items such as logs, poles, posts, piling, and timbers shall be: (1) Full cross sections, (2) representative sectors of such sections, (3) increment core borings, or (4) auger chips. When the latter two types of specimens are used on round items to represent the average moisture content of the sample, they shall be divided into zones and a weighted average moisture content determined arithmetically from the relative proportion of the cross section each zone represents. Because of the small volume of borings and auger chips, a more sensitive balance is required than would be required for specimens cut from lumber and other sawed items.

(c) *Procedure.*—(1) *Initial weighing.* Weigh each specimen immediately after cutting from the sample representing the lot or else protect it from a moisture change until weighed. Weigh each specimen to an accuracy of ±0.2 percent, for example, if the specimen weighs 250 g, obtain the weight to the nearest 0.5 g. Record the weight either on the specimen or on a data sheet that is numbered to correspond with the number on the specimen. If a delay between cutting the specimen and weighing cannot be avoided, place the specimen in a vapor-tight container or wrapper immediately upon cutting and allow it to remain in the container or wrapper until it can be weighed. Suitable wrappers can be made of aluminum foil or polyethylene film. The delay between cutting and weighing of the protected specimen shall be as short as possible, but in no case to exceed 2 h. Obtaining weights in grams rather than in grains or ounces simplifies calculations.

(2) *Drying.* After they have been weighed, place the specimens in an oven when convenient and heat at 103±2 C (217.4±3.6 F) until they reach constant weight. Place the specimens in the oven in a manner that will allow free access of heated air to each. To test for constant weight, weigh the heaviest specimens at intervals of 2 h or more until they show no further weight loss within the accuracy of weighing required. Avoid drying for periods longer than necessary to achieve constant weight since prolonged distillation or oxidation of the wood will produce a weight loss reflecting a higher-than-actual moisture content. Newly cut specimens should not be placed in the oven with partially dried ones since the drier specimens will be retarded in drying.

As a guide, an air-dry specimen about 50 by 100 mm (2 by 4 in.) in cross section and 25 mm (1 in.) along the grain will usually attain constant weight within 24 h at the specified temperature when dried in an electric oven having good forced-air circulation.

(3) *Final weighing.* Weigh each specimen immediately after it is removed from the oven upon attaining constant weight or store in a desiccator while awaiting weighing. The accuracy shall be the same as required for initial weighing.

Calculation. Calculate the moisture content as follows:

Moisture content, percent = [(A−B)/B×100
or, for more convenient slide rule or computer calculation:
Moisture content, percent = ((A/B)−1)×100

where:

A = original weight, and
B = oven-dry weight.

Example A 25-mm (1-in.) specimen of lumber weighed 56.7 g. After oven-drying, the weight was 52.3 g.

Moisture content, percent
= [(56.7−52.3)/52.3]×100
= (4.4/52.3)×100 = 8.4 percent.

If wood has been treated with a waterborne nonvolatile chemical and if the weight of the retained chemical is known, the moisture content may be determined as follows:

Moisture content, percent = [(A−B)/D]×100
where D = B − weight of retained chemical in sample.

§ 1209.9 Labeling requirements.

(a) Manufacturers and private labelers of cellulose insulation shall place on all containers of cellulose insulation the following statement: "Attention: This material meets the applicable minimum Federal flammability standard. This standard is based upon laboratory tests only, which do not

represent actual conditions which may occur in the home." Manufacturers and private labelers may use a pressure sensitive or glued-on label to meet this requirment provided the label is made and attached in such a manner that it will be legible for the expected amount of time between the manufacture of the product and its installation.

(b) This statement shall appear prominently and conspicuously on the cellulose insultation container and shall appear in conspicuous and legible type in contrast by typography, layout, and color with other printed matter on the container. CPSC regulations at 16 CFR 1500.121 provide type size, placement, and other requirements for cautionary labeling under the Federal Hazardous Substances Act (FHSA) (15 U.S.C. 1261). Those regulations indicate how labeling can meet the requirements of the FHSA that labeling appear prominently and conspicuously on the label of a hazardous substance. The Commission suggests that the FHSA regulations at 16 CFR 1500.121 be used as guidelines as to whether the labeling required in this standard is prominent, conspicuous, and legible.

§ 1209.10 Certification and enforcement.

(a) While this part 1209 prescribes test methods to determine whether cellulose insulation subject to this interim standard meets the requirements of the interim standard, the interim standard itself does not require that a manufacturer test any cellulose insulation subject to the interim standard. However, section 14 of the Consumer Product Safety Act requires manufacturers and private labelers of products subject to safety standards to certify that the product conforms to the standard, based on either a test of each product or a reasonable testing program. Manufacturers and private labelers must establish a testing program that is adequate to insure that the product being produced and distributed conforms to this intermim standard. In the future, the Commission may issue regulations as to what constitutes a reasonable testing program.

(b) The Commission intends to use the test procedures set forth in this part 1209 to determine whether insulation subject to the interim standard meets the requirements of the interim standard.

§ 1209.11 Effective date.

All cellulose insulation that is a consumer product and that is manufactured after September 7, 1978, must meet the requirements of this standard, including the labeling requirement of § 1209.9.

Dated: August 2, 1978.

SHELDON D. BUTTS,
Acting Secretary, Consumer Product Safety Commission.

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